AVICULTURAL MAGAZINE

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Grey-headed Kingfisher.

AVICULTURAL MAGAZINE

THE JOURNAL OF THE AVICULTURAL SOCIETY

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SOME WEST AFRICAN KINGFISHERS

By ALAN R. LONGHURST (Freetown, Sierra Leone, West Africa)

One of the pleasures of an itinerant aviculturist—or bird watcher—is to find that a wild bird he knows well at home has blossomed out, in a country new to him, into a whole range of different species. An American visiting Europe will find that his familiar Chickadee has become a range of about half-a-dozen common and diverse titmice, and so the European in Africa discovers, in place of the single and rather elusive species of kingfisher he knows at home, a range of conspicuous and ecologically differentiated forms.

Within a few miles of Freetown we regularly see at least five species of kingfishers, and a couple of others are present, but not so often seen. Ecologically, these are differentiated into the terrestrial, insect-eating forms, the forest and hill stream species, and those found mostly along the coast or the shores of estuaries.

During the dry season the Grey-headed Kingfisher (*Halcyon leucocephala*) moves down to the coastal areas from the semi-desert regions far to the north. Like the rather similar, but larger, Senegal Kingfisher (*H. senegalensis*) which is common in our gardens all the year round, the Grey-headed is a purely terrestrial species living on insects and mice in open, grassy places and on small crabs along the shores of the mangrove creeks. These species can sometimes be seen diving into fresh water, but only for bathing purposes. Quite different in habits is the fish-eating Pied Kingfisher (*Ceryle rudis*), widely distributed over Africa and well known to travellers from Egypt southwards. Conspicuous on a stump or post beside a brackish creek, or hovering over the shallows for small fish, this is one of our most noticeable and attractive birds.

Finally, the two extremes in size: the Giant (*Megaceryle maxima*) and the Pygmy (*Ispidina picta*) Kingfishers. The first is grey with a dark head, enormous bill, and rufous chest—and is as large as a jackdaw—while the second is a tiny confection of chestnut, coral, electric blue,

and shocking purple, and is little larger than a Wren. The Giant is a fish and crab eater and is most often seen along the fast, clear streams that come down the forested hills, while the Pygmy is restricted to even drier country than either the Grey-headed or Senegal, and is entirely insectivorous.

An interesting and attractive element of the African avifauna, but not one which the writer, at least, has any wish to keep in captivity ; their predatory habits and alarm-clock noises make them unattractive subjects, the more so when one can in any case enjoy the sight of them daily.

* * *

THE BREEDING OF STELLER'S JAY (*CYANOCITTA STELLERI*) AT DUDLEY ZOO

By D. H. S. RISDON (Dudley, Worcs., England)

We received a pair of these Jays from Mr. K. A. Norris in May 1956. We have found them to be extremely hardy and they have spent the winters here in an outdoor aviary with an unheated shelter, being shut up at night.

Like all Jays they are omnivorous in diet taking insectile mixture, fruit, raw meat, and nuts. They seem to show a preference for a vegetarian diet and are very fond of peanuts, sunflower seed, etc., which they hold under one foot and hack open in the same way as the tit family.

We had never seriously considered attempting to breed with them because our aviaries at the Zoo are not really suitable for breeding insectivorous species. However, last year (1959) I did bring them down to my garden aviary, which is naturally planted, to see what they would do. They had scarcely been in it twenty-four hours when they started carrying large beakfuls of nesting material into a thick bush. My hopes ran high for a few days when this building fever ceased as suddenly as it began. They showed no further interest in nesting and by midsummer went into a moult, so that was that.

Up to that time we had never been quite sure that we had a true pair, as the birds were almost identical in appearance. From their behaviour in my planted aviary it became fairly obvious that we had a cock and hen so this year we decided to give them a compartment in one of the Zoo aviaries and rigged up an artificial nest-site for them.

This was done with great care by our senior Bird Keeper, Mrs. E. Harris. It consisted of a large bunch of twiggy branches hollowed and flattened out in the middle, fixed up in a quiet corner of the aviary. To give the whole thing a firm foundation a saucer-shaped basket of

wire netting was rammed well down into the middle of the thicket and some turves of grass were pressed into place on top of this.

The birds had not long been in the aviary before they started carrying nesting material to the prepared site. This consisted of hay and any other bits of rubbish they could pick up in the aviary. They were given further supplies of fine twigs and coarse hay. When the nest was nearly complete it was noticed that their water bowl was constantly empty and that the birds came down to collect the wet earth round it, obviously to line the nest. A bowl of mud was put in the aviary, but they took no notice of this. Nest building was completed within a fortnight and the first egg was seen on the 9th May.

The following notes have been given me by Mrs. Harris. They are inevitably somewhat sketchy because, for obvious reasons, every precaution was taken not to interfere with the nesting birds.

The next time Mrs. Harris was able to have a peep there were three eggs. The colour of these was pale blue with dark spots. The birds were then left severely alone until the 1st June when on looking into the nest two young birds were seen. Judging from their size they were thought to be about two or three days old. It seems, therefore, that the incubation period must have been sixteen to seventeen days.

One week later the nest was again inspected and only one youngster was seen, the second having vanished as well as the third egg. The colour of the young was pink when first hatched but later the skin turned to grey. Apparently they had no nestling down.

The young one left the nest on the 26th June and spent the first two or three days hopping about on the ground. It looked very immature although well feathered and only about half the size of its parents. However, from then on it grew quickly and soon developed into a very fine young specimen. Its colouring was the same as the parents, only much duller, but it has now moulted and is indistinguishable from the old hen.

Shortly after the rearing of the young bird we had the misfortune to lose the old cock. His age was unknown so he may have been an aged bird and the strain of rearing a young one may have finished him off. Anyway he died at the onset of the moult.

The young one was reared, as might be expected, entirely on live or freshly killed food consisting of mealworms, maggots and newly born rats and mice, of which we are fortunate enough to have a regular supply for reptile feeding. Curiously enough the birds would not eat adult mice, although these were offered repeatedly. They would only take the newly born, pink ones.

For those who don't know Steller's Jay, the body, wings and tail are dark blue, the wings being faintly barred in lighter blue. The head, neck and upper breast are black. The bird has a pronounced crest, which can be raised or lowered at will. Beak and legs are black. In

size it is mid-way between a Mistle-thrush and a British Jay. The sexes are identical.

Its voice is very similar to that of our native bird consisting of a series of harsh squawks. I did on one occasion, however, when they were in my planted aviary in 1959, hear the cock bird uttering a low chortling kind of song.

* * *

BREEDING OF THE UMBRELLA OR GREAT WHITE-CRESTED COCKATOO

(*Kakatoe alba*)

By PAUL E. SCHNEIDER (San Gabriel, California, U.S.A.)

My main achievement in 1960 was the breeding of the Umbrella Cockatoo (*Kakatoe alba*). The youngster appeared on the aviary perch on the morning of 16th September. It was first observed as a chick about the 28th of June and was then about two days old. The nest was an upright 55-gallon oak barrel with the entrance hole near the top ; the barrel rested on the ground underneath the sheltered portion of the aviary. The aviary is 32 feet long, 4 feet wide, and 8 feet high. The adult birds were in my possession some 4½ years and had eggs on previous occasions. Unfortunately, due to the large nesting accommodation provided they always seemed to crack their eggs. I was actually in the process of replacing this barrel with a more suitable nesting-box when the chick was discovered. Two eggs were laid.

The adult birds are fed on canary seed, sunflower seed, raw Virginia peanuts, whole wheat bread, and quartered oranges. The oranges are the first choice of the cockatoos over the other food offered. They do not eat the peelings that is why I quarter them. This is what the young Umbrella Cockatoo was reared on.

The young cockatoo appears to be a female. The iris is a milky colour similar to that of the young female Roseate Cockatoo. Another reason why I think it to be a female is that the adult male attempted copulation the very morning it left the nest. As a matter of fact I thought it was the adult pair at first. The youngster is nearly as large as the adults and I have to look closely to see which is which.

I have gone through *Records of Parrots Bred in Captivity* and can find no record of this species of Cockatoo being bred. Is this the first breeding of this species of Cockatoo in captivity ? From what information can be gathered in the U.S. it appears to be at least a first breeding here.

The Hon. Secretary of the Avicultural Society states that this is probably a " world first breeding ". ED.

Copyright] [*Sten Bergman*

WOODPECKER PARROT ABOUT TO ENTER ITS NEST IN A TERMITARY. THIS POSITION IS TYPICAL.

(The above photograph depicts the *exact* natural size of the bird and has not been reduced.)

To face p. 200]

THE SMALLEST PARROTS OF THE WORLD

By STEN BERGMAN (Rönninge per Stockholm, Sweden)

In New Guinea the family Psittacidae is very richly represented. According to Mayr's "List of New Guinea Birds" of 1941 not less than 137 different species and subspecies of this family were known at that time and later several more have been added to the list. A most fascinating genus among the Psittacidae is *Micropsitta*, earlier called *Nasiterna*, which includes the smallest parrots in the world.

During three expeditions in Dutch New Guinea in the years 1948–49, 1952–53, and 1957–58, I made aquaintance with some different species of *Micropsitta*, but especially with *Micropsitta keiensis chloroxantha* Oberholser. It is of the same length as a Goldcrest (*Regulus*), but while the Goldcrest has a weight of 5–6 grammes, the weight of the above-named species is twice this figure and usually a little more, owing to its more solid structure.

The general coloration of the male is green but the under surface of the body is paler. The top of the head is yellowish and the middle of the breast and the middle of the abdomen is orange-red. Two central tail-feathers are blue and the remainder black. The outermost tail-feather is edged with green on the outer web and the three outer ones have a yellow spot at the tip of the inner webs. The wing is 57–59 mm. and the tail 24–26 mm. The tail-feathers have stiffened ends just like woodpeckers.

The adult female differs from the male in having the top of the head more greenish and the breast and abdomen green without any orange-red colour along the middle.

When I first saw this tiny bird in the tropical jungle, I was greatly attracted by its nice appearance, its beautiful colours, and its curious way of climbing the tree-trunks like a woodpecker, using the stiffened ends of the tail-feathers as support.

During my second expedition to New Guinea I devoted much time to searching for this bird and its nest and to observations of its habits. Those natives who knew this bird, told me that it lived in the nests of the tree termites.

One day my Papuan boy told me that a friend of his had found a termitary, into which a green parrot not longer than half a finger, as he expressed it, had disappeared, He had seen it feeding a young one, which appeared to be ready to fly at any moment. The nest was situated a couple of miles from my headquarters at Sorong on the western part of the Vogelkop Peninsula in Dutch New Guinea.

Next day I went with the two Papuans into the jungle to see the nest. On the top of a narrow ridge, the man, who had found the nest, halted and pointed to a large fig tree.

The termitary was built on the bole about 11 feet up. It was black and unusually round, for most termitaries I have seen are rather elongated. There was a small entrance hole in the underpart of it and that was where he had seen the parrot. My boy climbed up and cautiously poked a stick into the hole, but nothing happened. It all seemed dead. The Papuan who had found the nest said that the young birds of course had left the nest.

Nevertheless we sat down to wait. After nearly one hour, during which nothing happened, the Papuans said that the nest must be empty, so it was no use to stay any longer. I decided to take a photograph of the nest and began getting out my camera and flashlight. As I was doing this, I suddenly saw a miniature green parrot fly towards the termitary. The bird was obviously making for the nest, but our presence made it afraid to fly in at once. Instead it flew from branch to branch nearby, the whole time uttering a slender warning signal.

In the end I could no longer endure the uncomfortable position, in which I had frozen, when I first saw the parrot, and had to move. That scared the parrot and it flew off. We then withdrew and hid under some branches. There we stayed for more than two hours, during which time one of the parrots came twice and flew into the nest. I could hear young birds peeping inside.

As already mentioned, the Papuan had seen one of the parent birds feeding a young one in the entrance hole, and this one, in his opinion, was ready to fly. Thus that was perhaps the last day that the young birds would be in the nest and the next day they might all have left.

I would very gladly have spent several days watching the birds at the nest, but the risk of finding it empty, when I returned, was so great, that I decided to return after dark and take the whole termitary down from the tree, examine it thoroughly, and find out exactly how the parrots had arranged themselves. As far as I know from the literature no one had previously investigated the peculiar nest of that little parrot of New Guinea.

About one hour before darkness we returned and settled ourselves some 15 yards from the termitary. There we waited until it was almost complete darkness. During that time I saw one parrot fly into the nest, but my view was partially obstructed, so I could not observe things accurately. The main thing was that the birds should not be disturbed by our presence, but should fly into the nest for the night in the normal course of events.

As we sat and waited for darkness to fall, my Papuan boy told me that these small parrots also lived in the interior of the Vogelkop Peninsula, where he came from. He told me that they were used as medicine over there. If you had a pain anywhere, you ate one or more of those little parrots. You plucked them, wrapped them in leaves and

roasted them on a fire. They were a strong and very good medicine and soon made you well again, he said.

By seven o'clock it was already so dark that all the birds which should be in the nest, must already have been there, so I decided to make a start. First my boy climbed up and plugged the entrance hole with a piece of cloth, so that the parrots could not fly out. Then he and his helper took a heavy knife and set about cutting the hard termitary from the trunk of the tree, to which it seemed to have grown. The termites swarmed all over the nest and came out in their myriads. After a tussle the whole termitary was freed and lowered to the ground, where we put it in a cloth bag, which was then securely fastened, and so we set off for home.

It was horrible going in the dark in the rough jungle, but with the Papuans ability to find their way and with the help of my torch we reached a road without adventures. Then we had two miles to trudge with our queer load. What we were carrying home beyond thousands upon thousands of termites, I did not know, but I hoped that there would be a couple of baby parrots and their parents.

Having got them home, the next thing was to open the termitary. To prevent the parrots flying out into the room, I covered the termitary, my boy, and his helper with a mosquito net. Then the boy took a knife and began slicing off pieces of the hard material, of which the termitary was made. We opened it from the back, that is to say, the side that had been up against the trunk of the tree, and where I expected the parrots' nest to be, we cut a hole. After some slicing, we had reached the wall of the parrots' chamber and this we pierced.

Inside we could see something green, evidently a parrot. Carefully we enlarged the hole and then made a pause. Thereupon a little parrot came out and flew on to the net, where I caught it in my hand. It pecked me hard and energetically and drew blood, but I did not care, for there in my hand, I held one of the most sought-after inhabitants of the jungle of New Guinea.

I put the little bird in a cage that was already waiting, and then another parrot flew out. This had an orange-coloured patch on its breast and belly and thereby revealed that it was a cock. It bit just as hard as the other and was put into the same cage. Now there remain the babies, I thought, but before I could start looking for them, two other birds came flying out and alighted on the mosquito net. Having caged these, I fetched out two young birds, which were some of the sweetest I have ever seen. They were of different ages, for one had half its green feathers, while on the other most of its feathers were still in their quills. There appeared to be several days difference between them, but it was also possible that the larger had seized most of the food. To apportion food justly cannot be easy, when the nursery is in perpetual darkness as was the case here.

There's no knowing if the young birds will be alive in the morning I told myself. So I decided to take some pictures of them at once, as I was sure that no photographs of specimens of *Micropsitta* exist. As I was doing this, one of the Papuans called out that one of the adult birds had escaped from the cage and was flying round the room. It settled on the metal netting over the window, and having put out the light, I was able to catch it there in my hand. Before I put it into the cage, I counted the ones inside : there were four. Thus the bird I had in my hand was the fifth adult parrot and had obviously crept out of the termitary. Immediately after this I saw yet another flying in the room, and this, too, I caught on the metal netting. After this I put mosquito netting round the termitary, in case there should be more to come out. But there were no more. The termitary had thus housed six adults and two babies.

The parrots' chamber lay in the middle but slightly below the centre, and it was oval in shape, 8 inches long and 6 inches high. It contained no nest material, but there were small pieces of white eggshells and a few tiny green feathers. The passage from the entrance hole to the chamber ran obliquely upwards towards the bole, on which the termitary was fastened, then it turned almost at right-angles and led straight into the chamber.

The great question now was how to keep the parrots alive. The natives said that they ate termites, and so they did to some extent, but that was not their normal food. My parrots having been caught after they had finished eating for the day did not need any food until the next morning. All the larger parrots people had as pets in New Guinea were fond of banana and pawpaw, and I hoped that my small midgets would share that taste.

They were all alive in the morning, and I started by offering them banana and pawpaw, but none of them would touch either. I offered them mixed bird-seeds, that I had brought from Sweden with just this eventuality in mind. I tried them with boiled potato, oatmeal-porridge, and shredded coconut. Finding I could not get them to eat anything, I took each one and gave it a little condensed milk, putting it down its throat with tweezers.

I also put in the cage pieces of the termitary, on which termites were crawling, and some of the parrots took them and ate them, but only very few. That was the only thing I could get them to eat voluntarily, and later, when they must have been even more hungry, they quite disregarded the termites, even when they crawled right in front of their beaks.

The behaviour of these little parrots was most interesting. They lived up to their name of woodpecker parrots, for they moved just as woodpeckers, liking to jump on the metal netting of the cage and sit supported by their stiff tail-feathers. They did not climb by moving

Copyright *Sten Bergman*

TWO SPECIMENS OF *MICROPSITTA* NEAR THEIR NEST IN A TERMITARY.

[*To face p.* 212

Copyright] [*Sten Bergman*

THE TWO BABIES FROM THE FIRST NEST IN THE HAND OF A NATIVE.

To face p 213]

one foot at a time as other parrots do, but hopped with both feet at once. They drank a lot of water.

They were very inclined to sit in a huddle on the net. When two met on the net, they nearly always began plucking at each other's heads with their beaks and in doing so usually made a little noise like a mouse squeaking. When three or four met on the net, they huddled together with their heads close. This desire to huddle was probably due to their habit of spending the night in a cluster in the completely dark chamber of the termitary.

Though I devoted all my time and care to them, I could not keep them alive. One of the adults lived for forty hours, and the largest baby survived for forty-eight hours.

To find out what these parrots eat in the jungle, I have investigated the contents of their crops. They were filled with an indeterminate white mass. Heinroth, who observed and collected these birds in former German New Guinea writes (*Journal für Ornithologie*, 1902, p. 422) : " One meets the Woodpecker Parrots always in small flocks on *Albizzia procera* Benth and on certain places so regularly, that one can be sure to find them on some trees of this species. Here it lives on a substance on the tree bark, perhaps a kind of manna."

In the upper reaches of Argon Bay on the south-western part of Dutch New Guinea, one of my Papuan helpers found my second nest of *Micropsitta*. About 100 yards from a mangrove-covered shore a termitary was built on a large tree only a few yards from the ground. On my arrival a miniature parrot flew away from the entrance hole, but after a short while I heard the characteristic sound of this bird, a low " pseet " and a little parrot appeared near the nest. It saw me and uttered little warning signals, while it jumped about between some drooping branches, keeping an eye on me all the time. This bird was the hen. While she was jumping about, she kept scraping her beak along the bark, almost as though she was going to eat it. Then she flew into the hole, which was situated in the lower end of the termitary and stayed there.

Everything pointed to the parrot having eggs inside. If that were the case, the cock ought to come and feed the hen and so I expected that he would come at any moment. One and a half hours later a tiny parrot suddenly appeared in the gloom beneath the tree. With my field-glasses I could distinctly see the orange-red patch on the underside that distinguishes the cock. He saw me, but paid little attention to my presence and after a couple of hops from one branch near the termitary to another flew into the hole evidently in order to feed the hen. After about one minute he had finished, appeared for an instant in the hole, and then flew into the jungle. After another hour, during which time the cock did not appear again, it began to rain with tremendous violence. When the cloudburst was over I returned to my camp.

The next day I watched the parrots' nest from 13.30 till 18.00. It was 14.45 before the cock came to feed the hen, so it was obvious that he did not feed her very often. At 16.40 I saw three parrots by the nest and immediately afterwards another two, all obviously intending to go in to spend the night there. Quickly I got my camera and electron flashlight out and managed to take some pictures of them. One of the five waiting to go in was the cock. When one of the others came near him, it began fluttering its wings and then flew after the cock when he moved. It was obviously begging for food. Suddenly the cock disgorged some food from his crop and began feeding the other. Shortly after this I withdrew a few yards and then the little green dwarfs all flew in, one after the other.

That the cock had fed one of the full-grown birds made it appear probable that all the parrots, which had foregathered there that evening belonged to the same big family. Such a family would probably consist of the parents and their elder offspring not yet of marriageable age and so still living in the parental home.

That the father and mother allowed them to remain in those confined quarters, even when the mother was sitting on eggs or had babies, showed that the relations between children and parents were very good. That the father, as I had seen, would give his full-grown children supper, if they were hungry before they went to sleep, also showed that he had a good heart, small though it might be.

The following afternoon I again spent several hours watching the parrots' nest, and again I saw five parrots wanting to go in when bedtime came. One of them was the cock, and he then gave vent to a sort of suppressed song near the nest. The next day, as I was watching the nest, I saw two of the parrots begging from the cock simultaneously. These no doubt were the two chicks of the previous brood. That day there were six birds round the nest, and the last of them entered it at 17.10. When I later investigated the nest it contained two white eggs.

The third nest I observed was situated eight miles from Sorong. The termitary was built on a dead tree-trunk and only 1½ yards from the ground. As it was rather far from my quarters, I could not observe this nest as much as I should have liked. The nest was only used as night-quarters by the parrots. They came regularly to the nest about one hour or a little more before darkness. Normally the parrots went into their chamber for the night between 17.00 and 17.30. I wanted to know when they left the nest in the morning. I therefore observed this nest from before dawn. At 6.51 a tiny yellow-green head appeared in the hole. The next moment the bird emerged and flew straight into a tree and disappeared among the foliage. Within half a minute two more had left the termitary and also flown straight into a tree.

As the parrots enter the nest for the night between 17.00 and 17.30

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TWO WOODPECKER PARROTS AT ENTRANCE HOLE OF NEST OF TREE TERMITES.

A third bird has just arrived and all three want to enter the nest to spend the night in the chamber which the parrots have excavated.

[*To face p.* 214

Copyright] [*Dagny Bergman*

DR. STEN BERGMAN FEEDING A BABY OF *MICROPSITTA*, WHICH FOR THE FIRST TIME EATS VOLUNTARILY.

The food consists of a mixture of milk, wheat flour, sugar and masked paw-paw. But this food was obviously not good for its stomach. After 66 hours it died.

Copyright] [*Sten Bergman*

ONE OF THE BABIES FROM THE FIRST NEST.

To face p. 215.

and leave it again just before seven in the morning, that gives them a long night of thirteen or fourteen hours. It is surprising that especially baby birds can go so long without food.

During my latest journey I also tried to keep *Micropsitta* living and one half-grown baby was eating voluntarily a mixture of milk, wheat flour, sugar, and mashed pawpaw. But this food was obviously not good for its stomach. After sixty-six hours it died.

How it is possible for a nesting bird to live inside a termitary with innumerable insects running about everywhere? Mr. K. A. Hindwood of Sydney has for many years investigated this problem. In his most interesting paper "The Nesting of Birds in the Nests of Social Insects" (*The Emu*, vol. 59, 1959, p. 1–36) he states that a total of forty-nine species of birds are known to breed in either terrestrial or arboreal nests of termites. About the problem of nesting together with termites he writes: "As the excavation progresses so the termites instinctively seal the exposed portions of their nest. The galleries facing both the tunnel and the nesting chamber are thus plugged, so that there is no actual contact between the birds and the insects. Both are able to carry out their respective activities without interference, one from the other. Thus it will be seen that the "problem" of how nesting birds can live within a termitarium containing hundreds or thousands, perhaps millions, of insects, is really no problem at all."

Of course this charming little parrot would be very popular in aviculture, if only we could find some suitable food for it.

* * *

THE BREEDING OF THE DAURIAN REDSTART

(*Phoenicurus aurorea aurorea* (Pallas))

By Mrs. K. M. SCAMELL (Newdigate, Surrey, England)

The only two Redstart species which are known to breed in other than mountainous districts, i.e. the Common Redstart and the European Black Redstart, are summer visitors to this country and breed here. However, among the little known Redstarts which inhabit the mountain ranges of Central Asia is the Daurian Redstart.

In the monograph *The Redstart*, by John Buxton, it is stated : " The Asiatic forms of this species do not breed below 10,000 feet and the Indian Redstart nests up to 17,000 feet in the Himalayas. Hodgson's Redstart nests at the same height, where it is often found near streams though, like the Indian Redstart, it also frequents stony hillsides, whether they are covered in scrub or not. Güldenstad's Redstart is another species that is often found near water and it is known to breed at least up to 16,000 feet. The White-throated Redstart inhabits pine or deciduous forest between 10,000 and 17,000 feet and the other Redstarts . . . all normally nest above 10,000 feet. The Daurian Redstart and Evermann's Redstart both have a rather wider range and may also be found rather lower, though these too are mountain birds. . . . The Daurian Redstart shivers its tail in the same way as our Redstart. So far as is known, all these birds nest in holes or niches or crevices, whether in trees or rocks. The Blue-fronted Redstart is said to feed in the air as well as on the ground and it seems quite likely that other species also share this habit with the Common Redstart. However, not very much has been recorded of the habits of these Redstarts, which is not surprising when we consider the remote and inaccessible nature of the country where they live."

The breeding areas of the Daurian Redstart are variously reported as south-eastern Siberia, northern and eastern Mongolia, Manchuria, North China, North Korea, and North Japan, but wintering is down to South China. A brief description of this Redstart is as follows :—

Male.—Head and nape silver-grey on black ; upper back, throat, and upper breast, wings, and centre tail feathers, black ; lower back, rump, lower breast, and belly, rufous-brown ; tail, deeper rufous-brown ; white bar on wings.

Female.—Generally, various shades of brown with smaller white patches on dark brown primaries ; light reddish-brown tail.

Our pair were purchased from S/Ldr. Everitt in April, 1959, and were stated to be freshly imported from Dr. Searle, in Hong Kong. They were placed in a small planted aviary which measures 6 by 3 by 6 feet high with a small external shelter attached to one end. An open-fronted nest-box as well as a budgerigar-type box were located

high up but no nesting was attempted that summer. In late September the cock was seen to be in very poor condition and both birds were caught up and separately caged for the winter. In December we showed the pair in a divided cage at the National where they were awarded a Third. In late April this year we turned the hen out into the same little aviary and let in the cock a few days later, together with a pair of Diamond Doves.

During the last week in June the hen was observed coming from an open-fronted nest box high up and located over the door and facing north. At the same time the Diamond Doves abandoned two eggs on which they had been sitting. It is thought the first egg was laid about the 26th June but it may have been a day or two earlier. The nest was cup-shaped and of grasses. The hen was generally off the nest when one approached the aviary and on the 10th July the nest was again examined quickly, three eggs but no sign of youngsters, so I removed the Diamond Doves. The eggs were pale blue with reddish-brown or brown spots—all different. Another week went by and it was noticed that the hen was sitting more consistently, but on the 17th there were still no young but about six or seven eggs were in the nest. Some of these were examined and one in particular was quite blotchy with brownish specks over a bluey-green. It seemed, therefore, that instead of abandoning her first three eggs, the hen had laid again. On 23rd July I placed my hand in the nest and felt one youngster—it could have been a day old. A few days later (31st July) I found a naked dead chick beneath the nest, but from the amount of fresh ant eggs, cut-up mealworms, and gentles which were being consumed, I was sure there were three or four more alive in the nest. The hen alone incubated but the cock was observed to play a large share of the feeding. On 28th July I saw both the cock and hen feeding in turn and during the next week such quantities of live food and insectivorous food were consumed that I thought we must have four or five youngsters. On Sunday, 7th August, the food consumption seemed a little less and though we listened we could not hear the chicks. On this occasion my husband decided to investigate and almost at once out came three young Daurian Redstarts. They were all returned, but our experience is that once young birds have left the nest—even prematurely—it is pretty hopeless trying to return them. During this time the cock was very excited, making his loud clicking call. The weather was fine and the three youngsters huddled close together with their heads turned in one direction almost as if they were stuffed. In colour they were buffish underneath with spots extending to throat, wings darkish brown, dark streaked head, tail reddish, very short.

The next week was uneventful—the three youngsters got stronger and two of them seemed to roost in the shelter—I didn't like to stay

too near when darkness approached in case I made the final choice of a roosting site difficult. The third bird kept apart and made no attempt to fly or climb the netting. The parents neglected it, so on 14th August I removed it with a view to hand-feeding. However, its feet were badly swollen and inflamed and the inflammation spread up one leg. In between feeds I kept it in the airing cupboard but it was dead the next morning. Both parents continued to feed the two survivors and I had hopes these would be reared. On the 19th August, however, another youngster was seen to be on the ground and in a huddle. The other youngster was flying strongly with its parents, who ignored the weaker bird. This time, therefore, I decided not to wait before attempting hand feeding. Here again its feet were inflamed like the first youngster, but it could feed itself in a half-hearted way and swallowed several small gentles. I mixed chopped hard-boiled egg and sponge cakes and by the next day the bird seemed brighter and stronger—even perching. This hand-feeding by means of a Thomas's " Handfeeder " continued for four days, but the bird died on 23rd August. I thought its feet were a little better but it went back after the second day.

The third and last youngster was always with its mother. It perched with her always and when I was sure it was able to feed itself I decided to catch it up and cage it, which I did on 3rd September. It is a fine bird and is now marked as follows :—

The young bird is (11th September) speckled light and dark brown over the head and chest with a reddish brown tail. The underparts are drab brown. The wings, being darker brown than those of the hen, plus a deeper red-brown tail, do, I think, indicate that it is a cock.

Looking back I wonder if it was the diet or the excessive dampness which caused the inflamed feet which I think was responsible for the parents' neglect to feed the two youngsters which died. The grass in the aviary had grown rank and long in the ten weeks which elapsed between the first egg and the one survivor being removed from the aviary.

About 22nd August both parents started to moult—the hen in particular losing many of her feathers at one time.

As described, Mrs. K. M. Scamell has bred the Daurian Redstart (*Phoenicurus aurorea aurorea*). It is believed that this may be a first success.

Any member or reader knowing of a previous breeding of this species in Great Britain or Northern Ireland is requested to communicate at once with the Hon. Secretary.

BREEDING RESULTS FOR THE YEARS 1955–60

By A. H. ISENBERG (Portola Valley, California, U.S.A.)

In 1955 one Australian Struthidea was reared after three years of continued failures. The parents would build one mud nest after another, laying two to three eggs each time. When the young hatched, great care was taken of them for four to six days, then the young were either thrown out or deserted for a new nest. These Struthidea have been the most aggravating birds I have ever had the pleasure to have breed. The one young lived with the parents for over a year and a half when the parents killed it, even though it was helping to incubate eggs and feed the new young. To-day, the same pair are still at it. At least four nests per year have been built.

Also in 1955, three Mexican Jilgueros (*Myadestes obscurus*) were raised. I have, in previous issues of the MAGAZINE, related the details.

Two *Ptilogonys* (Silky Flycatchers—Mexico) were reared and several White-Eyes (*Zosterops simplex*).

In 1956 the most outstanding success was the rearing of one Australian Regent Bower-Bird. The nest was built rather loosely of sticks and twigs and two eggs were laid. One egg disappeared but the other hatched in about fifteen days. The nest was built about 9 feet up in a thick poplar tree. Shortly after the young left the nest and was fully on its own, the female died of overeating (heart attack). I have rarely seen a bird with so much fat on it. She would always eat the first five or six mealworms before feeding two or three to the young. I had cockcroaches, grasshoppers, moths, and mealworms, but I'm sure I made the grave error of feeding too much too often. The young bird lived only two months after this. A very great loss indeed, even though some success was had.

Five common Indian Babblers (*Argya caudata*) were raised. These are sweet little babblers, never belligerent, and when their nest is approached, or even robbed by another and larger bird, all they do is plaintively cry about it. I raised one by hand, which is one of the most affectionate birds I've ever had, and still is even after some three years.

Five Indian Brown Robins (*Saxicoloides fulicata* (Linn.)) were raised, two males and three females. They nested in a nest-box with a 2-inch hole.

In 1957, three female and two male *Turdus cardis* (Japan) were reared in true thrush fashion. The *Turdus cardis* are wonderful singers. Their singing period is long, April to September, and some have great variety in their song.

One Guira Cuckoo was reared after many near successes. The young would fall out of the huge stick nest and then die from injuries

even when two weeks old. The Guira Cuckoo is found from Brazil to Paraguay and Argentina and is a most interesting and odd looking bird.

Only one Mexican Jilguero was reared.

Five Golden Callistes, or Black-cheeked Callistes (*C. aurulenta*) (Colombia) were reared in the new greenhouse. They used a wire nest which they lined with leaves, hair, feathers, etc. The nest was hidden in a thermostat box.

During these years a number of "near successes" gave some exciting moments :—White-capped Redstarts, Mesias, Collies Magpie Jays, Quetzals, Cissas, Piping Crows, Yellow-tufted Honey-eaters, Spreo Starlings, Ixulus, Chinese Jay-Thrushes, Kookaburras, and Shamas, all nested and sat on eggs which proved infertile or were thrown out.

In 1958, Common Babblers reared two, and Shamas reared five, from three nests in a box in a greenhouse cage about 6 feet long, 4 feet high, and 3 feet deep, built over a deep plant box with a "jungle" of fig growing in it. My other pair of Shamas, which are in an outside aviary, hatched numerous young but did not rear any.

In 1959, Smooth-billed Anis hatched several young but only one was reared by hand—more about these interesting birds in a separate report. Three Shamas were reared by the greenhouse pair, one male and two females, and in 1960, one male and one female.

Chestnut-bellied Starlings (*Spreo pulcher*) raised three young.

Golden-winged Sunbirds built a nest but, due to so many other birds in the aviary, could not cope with the interference.

Red Birds of Paradise nested and laid. Details of this in another article.

* * *

THE BIRDS AT CLÈRES IN 1960

By J. DELACOUR (Clères, France)

In the course of this year I retired from the position of Director of the Los Angeles County Museum, having reached the age limit of seventy, and I had reluctantly to move out of my Californian house. It was not possible to maintain it as I plan to stay there only two or three winter months each year, spending the spring and summer at Clères, and the autumn in New York, not to speak of many travels. I deeply regret leaving my garden and aviaries, as it was great fun to grow exotic plants and to keep birds in this wonderful climate. I had nine pleasant years in California and I am thankful for the experience.

Many of my Los Angeles birds have been sent to Clères, but the most delicate ones had to be disposed of over here, owing to an unwelcome one-month quarantine imposed by France on all birds

from the United States and Great Britain because of Newcastle and other avian diseases prevalent at present in those countries. Obviously, Sunbirds, Sugarbirds, Tanagers, Trogons, Cotingas, and other softbills could not have survived it. It was a bitter disappointment.

While California had one of the hottest and driest years ever recorded, Normandy was very wet, like the rest of Europe, which did not help in rearing birds. There were, however, at Clères fourteen Rheas, one of them white, a Stanley Crane, innumerable Peafowls, wild Turkeys, and a number of pheasants, including Mikados, Bel's, Brown Crossoptilons, Sonnerat's, and Ceylon Junglefowls. A cock Californian Quail, whose wife had died on the nest, took over incubation duties, hatched and reared two young. A Bobwhite female, which escaped more than a year ago, and had never been seen since, was captured in a trap in perfect condition. The most interesting waterfowl reared were two Australian Radjah Shelducks, Brazilian and Puna Teal. Since rats have completely disappeared owing to steady poisoning by warfarin (a wonderful discovery) many young ducks and teal are now easily reared by the parents on the lake and other ponds. All that is necessary is to catch them in time for pinioning and to supply them with food in cages of large mesh wire netting, accessible to chicks, but not to adults. Many Teal, Carolinas, Mandarins, Fulvous, and Cuban Whistling Ducks were raised in that way. Various love-birds and parrakeets nested successfully, and also doves. A pair of Hyacinthine Macaws laid eggs which did not hatch.

A number of important acquisitions were made during the year, the first being a pair of Congo Peacocks which the Royal Zoological Society of Antwerp most kindly loaned us. They look perfect, but they have not laid yet. We received some good Congo birds from Charles Cordier: Hartlaub's Ducks, large Hornbills (*Ceratogymna abtrata*), Ross' and Schuetti's Touracos, Amethyst Starlings, Black and Plumed Guineafowls; White-eared and Knysna Touracos, Rufous Motmots also came, as well as many geese and ducks.

The aviaries for doves and small birds are now renovated and improved, and by the next spring, our collection of such birds will be greatly increased.

* * *

SOME BREEDING RESULTS DURING 1960 AT THE EDWARD MARSHALL BOEHM AVIARIES

By CHARLES EVERITT (Trenton, N.J., U.S.A.)

How true it is that, when dealing with livestock, the simplest thing in the world is for them to take over control. I fear that this situation has arisen as far as I am concerned for reference back to my previous articles on the Boehm Aviaries will show that originally I had planned to describe the birds kept here aviary by aviary and room by room. This I subsequently revised and said I would do it species by species. Now I am making a further change, due to force of circumstances, but I am sure that, when what is to follow has been digested, my deviation from the paths I had proposed to tread will be forgiven.

The fact is that, in my opinion, there has been a most encouraging breeding season this year which portends even greater things when more of the birds have become fully acclimatized. The reason for my saying this is that all the species that have been bred successfully have been here for over twelve months. In a way I am going back to my original plan of dealing with the birds aviary by aviary, but with the slight diversion that I shall touch on only those aviaries and rooms where breedings, or near misses, have taken place, and shall refer to the various enclosures by the numbers as shown on the plan on page 113 of the May–June, 1960, issue of this magazine.

At the time of writing the descriptive article referred to above, aviaries numbered 32 to 34 had not been completed, and in any case the place was still in the grip of winter, so I had had to call upon my imagination as to what they would look like in the summer months. How sadly I fell short of the mark. The appearance of all the aviaries could not be expressed adequately by mere words ; might be hinted at in black and white stills but, a coloured cine-strip would be more appropriate. Since it is not possible here to reproduce the latter, I hope the accompanying plates will provide a better portrayal of the settings than I could ever convey by other means.

This will be primarily a series of breeding reports covering such species as Azure-winged Magpies, Black-chinned Yuhinas, Black Tanagers, Dhyal Birds, Green Cardinals, Magpie Tanagers, Mourning Doves, Occipital Blue Pies, Variable Tanagers, Pagoda Mynahs, Red-vented Bulbuls, Rosy Pastor/Pagoda Mynah Hybrids, Silver-eared Mesias, White-browed Wood Swallows, and Bonaparte Euphonias, and I shall cover these in their aviary sequence rather than in either an alphabetical or chronological order. Needless to say there were some near misses and there are still hopes of additional breedings before the end of this season.

As I said earlier, I intend to work from the plan of the aviaries, in numerical order, so now we go over to number 14. Throughout the winter months the sole occupants had been a pair of Satyr Tragopans but, towards the end of February this year, the wire screen and window to Pen No. 12 were removed thus enabling the birds there free access to the aviary. Their feed and water pans were retained in the room so as to encourage them to come inside to roost at night for it was realized that the winter was not fully over. It was a motley collection of birds consisting of American Blue Jays, American Robins, Azure-winged Magpies, Cuban Red-legged Thrushes, Purple and Blue-eared Glossy Starlings, Amethyst Starlings, Virginia Cardinals, Shining Calornis, Brown-headed Cowbirds, Boat-tailed Grackles, and last, but not least, " Blackie " and his mate. He is a Crested Mynah given to my wife several years ago by Kenneth Norris and, not having been able to bring ourselves to part with him, we brought him with us out here. I must say that his Canadian accent fits in quite well and he is as affectionate and talkative as ever. But, back to the main topic. In March we had a real taste of what winter can be like in these parts for, after a very heavy snowfall of about 12 inches, a cold snap developed and the coldest March night for eleven years was recorded. This sudden fall in temperature occurred overnight with no pre-warning. Although access to the heated room was available, the majority of the birds had taken to sleeping out in the open and, therefore, a high mortality was feared. The only casualties, however, were the Shining Calornis and a single American Blue Jay. The Amethyst and Glossy Starlings seemed to revel in it and, as for " Blackie ", no bird could have been fitter.

It was during the later part of May that a rough nest of twigs was noticed being built in a V joint of the aviary framework, right up against the outside wiring at a height of about 8 feet. Then the Azure-winged Magpies (*Cyanopica cyanus cooki*) were seen busying themselves at it and, on climbing up to inspect it on 30th May, one olive coloured egg, mottled with brown, was found in the nest. Not fully trusting the Starlings or the Mynahs, and knowing how belligerent members of the Magpie family can be at nesting time, it was thought best to let the Azure-wings have full control. The remainder were forthwith shepherded back into Room 12 with the exception of the Tragopans which it was felt would be safe to leave where they had been all the time. Since both birds looked identical it was not known whether the Magpies were a pair or not, but at least it was now clear that there was a female. Incidentally both of them were in a most disgusting state of feather, all patchy and sticking out in all directions, just as if they were stuck in the moult. A further five eggs were laid and, since all the literature immediately available here only mentioned clutches of three and four eggs, it was

feared that they might both be hen birds. On 19th June, it was revealed that they were a true pair for the first chick hatched out with a further one on each of the next three succeeding days. Whether incubation was shared or not cannot be stated with any certainty owing to the similarity of the parent birds but it is considered that it most likely was for, at one part of the day the sitting bird would be across the nest facing outwards and at other times would be positioned in the opposite direction. As no more hatched and the last born died on the 25th, the remaining two eggs were removed and found to be addled. They measured 26 by 20 mm., and were then seen to be more of a buff colouring than an olive, with heavy splotches of umber mainly at the thicker end. The chicks were about the ugliest possible—dark skinned, completely bare, and with great flat heads. A slight improvement could be seen when the eldest was five days old and quill feathers began to appear, and it looked even better the following day when it had its eyes open. By the end of ten days, despite the day's difference in their ages, they appeared to have levelled up and it was hard to detect which was the first-born. By this time dark wing-feathers and brownish body plumage was showing. Even at this stage, on first looking into the nest all one could see were three great yellow gapes and it was only when they realized that no food was forthcoming that they closed them and made it possible to see their feathering. All came on very well and it was decided that the diet of minced beef-heart, egg-mix, blueberries, apple, meal-worms, and baby mice must be satisfactory for them. On 7th July, twenty days after the hatching of the first young bird, all three left the nest. When they were caught up for banding it was observed that the general body colour was a buffish-brown with blue showing in the wings and outer tail-feathers. Their heads were grey streaked with black and the bill and legs a leaden colour. Both parents fed the chicks but, I fear, we are no nearer to sexing them for even their calls are the same. Now, at eight weeks old, the caps of the young birds are black, as with the adults, and the blue in the wings and tail is of the same intensity as the mature birds although the overall body colour is not so deep. All three have the same raucous cry of their parents so, with five of them at it, you can imagine the racket at feeding time. There is one thing at least in which they differ and that is that all the young birds are sleek in feather whereas the older birds are as ragged looking as they were when they first went to nest.

Well, so much for Aviary No. 14 and now we will move along to No. 17 in which there are a pair of Eastern Mourning Doves (*Zenaidura macoura*). This is a local species of dove, the female having been here for about two years, but it was not until February this year that a mate was obtained for her. They are easily sexable, as adults, for the male has a purplish metallic collar which feature is entirely

lacking in the female. They were out during the snow, and the cold snap mentioned earlier, but were not affected in any way. An open type nest-box with a sloping roof was hung up in flight early in April with a coil of alfalfa hay in the bottom of it. It was quickly accepted and the first egg was laid on 17th April, with a second the next day. They were typical dove's eggs, plain white and measuring 30 by 24 mm. The incubation was shared, the male doing the late morning to early afternoon shift, but only one young hatched out on 4th May, the other egg having been damaged in some way. As with the incubation, the rearing also was shared and the squab soon feathered up and left the nest on 16th May. As soon as it did so they ignored it completely and it died the following day. With no signs of remorse the hen went to nest again and on 20th May, there were two more eggs in the box. This time there was no fooling and two fine birds left their nest on 17th June, and were reared to full independance within ten days. A third clutch appeared on 29th June, so, to be on the safe side, the two young birds were removed to the adjoining aviary, No. 16, where there were Emerald-spotted and Tambourine Doves together with some other seedeaters. This third clutch hatched on 16th July, but did not progress as well as the others. One was picked up dead on 25th July, and, although the other left the nest two days later, it was not so well feathered as the others had been and, even now at one month old, is very tatty in appearance. The female actually laid again on 11th/12th August in the seed pan, having arranged a few twigs in there since the box had been removed by then. Although these eggs and the twigs were taken out another two appeared on 22nd/23rd August. There is no knowing how long this will be going on but it is not intended to allow them to have another round this season. Both the young birds of the successful round still resemble the female in general colouring and there is no sign of the masculine collar showing up on either of them. Though not a very colourful dove they are distinctive by their long pointed tail, the white spots on which show up prominently in flight. The general colouring is a cinnamon-brown with black bars on the wings and a black spot behind the eye. With the exception of the collar, all other marks are the same in both sexes.

Although the next breeding took place in Aviary No. 18, there is a prelude to it. In Aviary No. 36 there used to be three specimens of the Magpie Tanager (*Cissopsis leveriana*), which had been there since the previous year. This is a fairly large tanager, black and white in main colouring but possessing a bright yellow eye and a short, black, hawk-like bill. Sexes are similar and, as with the Azure-winged Magpies, it was not known if there was a pair or not. However, early in April one was observed carrying nesting material and on 3rd April, one of them killed another. Working on the assumption that during the breeding season they are territorial, the remaining two were

caught up and placed in Aviary No. 18 on their own. For quite a while this seemed to have been a wasted effort and it was not until June that the carrying process again started. However, by 7th June, they had completed a rather untidy construction of fine twigs, pine needles, and coarse grass, the whole being lined with dead Dogwood tree leaves and it was located about 4½ feet up in a Canadian Hemlock tree. The first egg was laid on 9th June, and a second the following day. They were of a creamy-buffish colour heavily marked with streaks and blotches of dark brown. Incubation may have been shared, but this is not certain since both birds look exactly alike and it is not possible to differentiate between them. Anyway, he, she, they, which ever it was, sat steadily and, on 22nd June, two chicks were seen in the nest. The young birds had pinkish bodies covered with a light brown fluff and their gapes were a deep orange. The following day one of them was found on the ground but, still showing signs of life after being held in the hands for a few moments, was replaced in the nest. However, the rearing of the two was not to be, for on the 24th one only remained and there was no trace of the other. The fact that both parents took part in the rearing of this sole survivor is known for each bird actually was seen in the act of feeding the youngster which progressed well, quill feathers were showing at five days, and its eyes were open. It continued to feather up rapidly in a black and white pattern similar to that of the parents and, on 7th July, left the nest. Within forty-eight hours it was very active in the trees and bushes and was a miniature of the adults except that the bill was flatish and the eyes grey. The hook shape of the bill was not fully realized until it was twenty-one days old, by which time its tail was fully grown, but the eyes remained grey. It is now over two months old and still no change in the eye colouring has taken place and it is only this feature, plus the ring on its leg, which enables it to be distinguished from its parents. Realizing that the colour of the eye is a minimum age indicator, careful watch is being maintained for the first signs of a change and further information on this point will be given in due course. The rearing food mainly consisted of fruit plus minced beef-heart, egg-mix, flies, and grubs caught by the parents, which live food was supplemented by regular issues of mealworms.

It is now time to turn the corner and proceed to Aviary No. 21 where, although by no means a "first" breeding was achieved, it was, nevertheless, a most interesting one. The sole occupants are a pair of Occipital Blue Pies (*Kitta crythrothyntha magnirostris*), which in 1959 had three fertile eggs. These, however, became damaged and no further effort was made by them that year. On 30th April this year an egg was laid in a nest of rough twig construction they had made up in a shallow open basket which had been fixed in a wild apple tree. Actually it was the same site as they had selected the previous year.

[Jay Hoops Studios

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MR. BOEHM IN THE FORMAL INDIAN GARDEN, AVIARY NO. 32, HOUSING SUNBIRDS, SUGARBIRDS, FLYCATCHERS, ETC.

[To face p. 229

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BENGAL PITTA IN AVIARY NO. 34.

Three eggs were laid in all but the female, which was the only one to be seen sitting at any time, was very unsteady and came off at the slightest provocation. Unfortunately there was an abundance of disturbance at this period as a new pipe line for water was being laid alongside the aviary they occupied. When she appeared to have deserted the nest for good the eggs were removed and found to be addled.

Early in June she was observed to be sitting again and, on looking into the nest, another three eggs were found. It was just about now that the male bird developed a resentment of intruders and, even at feeding time, used to swoop down and strike at whoever ventured into the aviary. Hence no more visits were made to the nest and all further observation had to be conducted from above the roof. When such an excursion was made a week later it was seen that there were now six eggs. The first hatched on 22nd June, and another chick appeared each day for the next four days making a total clutch of five. The last egg had disappeared two days later but no attempt was made to enter the aviary to look for it for, by now, both parents were most aggressive and it was not advisable to take their feed in without the wearing of a head covering. I will not go into details regarding feathering of the chicks, etc., for this species of bird has been bred several times before and full details of the development of the young have been given in other write-ups. However, I have not been able to trace any report of five young Occipital Blue Pies being hatched and reared to independance from one nest. They are now over two months old and are almost as big as their parents. Their bills and legs are beginning to turn red but the white crest of the adult birds is not yet showing up. It is felt that this may constitute a record breeding of the species so far as quantity is concerned and any information on this point would be greatly appreciated.

So far, all the breedings that have been mentioned have occurred with pairs that have had an entire aviary to themselves but, those to follow were all in mixed aviaries as will be seen. Passing by the Parrot House and the Cockatoo aviaries, where incidentally Redrump Parrakeets and Peach-faced Lovebirds were bred, and continuing on by the Sunbirds' and Starlings' aviaries we eventually reach No. 34, Brookside Aviary, so named from the stream that runs through it. The main occupants, all released into there late in April this year, consisted of Tanagers, Trogons, Pittas, Fruitsuckers, Orioles, Ruby-throats, Wagtails, Hoopoes, and White-capped and Plumbeous Redstarts. The Tanagers included Golden-masked, Silver-throated, Yellow-browed, Pretre's, Scarlet, Black, Golden-naped, Scarlet-rumped, and Variable, more commonly known as Orange-rumped. The Golden-masked, or Mrs. Wilson's, were the first to go to nest closely followed by the Silver-throated but, although both species had

eggs and began to sit, all the eggs had disappeared about a week later. The Yellow-browed are suspects for being responsible for the removal of the eggs, but nothing definite has been decided on this point. The third pair to get busy were the Variable Tanagers (*Ramphocelus flammigerus*), which took seven days in the construction of a nest of rootlets, pine-needles, and grasses, lining it with fibres from shredded sisal string and soft, fine grasses. It was an open cup-nest measuring 11 cm. across the top with a cup of 6 cm. wide and 4 cm. in depth. The location was 3 feet up in a Canadian Hemlock tree close to the entrance door from the corridor running behind the bird room. On 17th May, one egg was seen in the nest and there was a second the following day. They were sky-blue with irregular black dots, mostly at the thicker end and measured about 23 by 17 mm., although this is but an estimate since they were not removed for examination. Although the male assisted in the construction of the nest, the incubating was left entirely to the female. On 29th May, two chicks, dark skinned and covered with a grey fluff were in the nest and, on approaching them, it could be seen that their gapes were red with orange streaks running fore and aft. Beyond setting up a special feeding tray for live-food for them, no other precautions were taken for the hazards in the form of the running stream connecting two deep pools and the variety of other birds in the aviary were too complex to be guarded against fully. As it was, all went well with the chicks although there was a tragedy in that four of the Yellow-browed Tanagers were killed at this time. It was not until the fourth death that it was realized that the male Variable Tanager was the killer. Fourteen days after hatching the chicks left the nest and, in feathering, resembled the female being dark on the upper-parts with pale lemon underparts. The bills, however, were black and not the silvery shade of the parents. One seemed to be much slower in getting about than the other and eventually died at seven weeks old. The other became fully independant and the change in the colouring of the bill occurred when it was sixty-one days old. In the meantime the female had constructed another nest, also in a Hemlock but this time on the other side and farther up in the aviary. Again two eggs were laid which hatched out on 8th and 9th July, which indicates that incubation began with the laying of the first egg. One of these chicks disappeared from the nest after four days with no trace but the other has reached full independance and the parents now have two more chicks, ten days old at the time of this being written, in a nest built on the site of the first one.

In between the first two breedings of the Variable a pair of Black Tanagers (*Tachyphonus coronatus*) had built a nest in a *Clethra alnifolia* bush and they had three eggs, laid on the 24th June and the two succeeding days. It was a smaller nest than the Variable's, being only

9 cm. across the top, but it was deeper having a cup of 7·5 cm. The main nesting materials employed were pieces of twine and coarse grasses for the exterior with finer grasses and dog's hair for the lining. Here again the male took no part in the incubation but, on 8th July, twelve days after the laying of the third egg, three chicks, dark skinned with a black fluff, were found in the nest. Their gapes were similar in colour to those of the Variable's young. The eggs, however, were entirely disimiliar in appearance being of a pinkish shade with golden brown fleckings. Although the male had not assisted in the incubation he certainly realized his responsibilities now the youngsters had arrived and was most conscientious in his care of them during the rearing, and defended his special live-food tray as effectively as any of the other birds in similar circumstances had done. They all left the nest at what seemed an extremely early age, i.e. nine days, but were soon rounded up for ringing when it was observed that their general plumage was rufous brown, resembling the adult female. Unfortunately this breeding of *Tachyphonus coronatus* cannot be listed as fully successful for two of the chicks were killed by the Variable male on 29th July, only twenty-one days old, and the third was a victim of a tropical storm which struck on the 30th. Since then, both the adult Black Tanagers whose nesting is referred to above, together with another pair of the same species also in that aviary, have all been killed by the same male Orange-rumped Tanager. To say that his days in there are numbered should not be wondered at but he has earned a reprieve in that he has a further two chicks, just hatched out, to rear. Every effort will be made to trap him but, if this proves impracticable due to the number of other birds in there, more drastic methods may have to be resorted to.

Although we have nearly reached the end of the aviaries shown on the plan, it is by no means near the end of the breedings. In Aviary No. 36, the original domicile of the Magpie Tanagers, referred to earlier, there were two pairs each of White-browed Wood Swallows and Yellow-naped Ixulus, a pair each of Black-chinned Yuhinas, Golden-winged Sunbirds, and Black-headed Sugar-birds and singlet Purple and White-bellied male Sunbirds, a Black-headed Bunting, a Blue-headed Rock Thrush, and a Yellow-cheeked Tit. The Wood Swallows (*Artamus superciliosos*) had been in there about eighteen months and, early in May, one of the males was seen to be feeding a female which, in turn, was carrying pieces of nesting material. Up to now all four birds had roosted together in the same tree but events indicated that, so far as nesting was concerned, they are not gregarious for, on 5th May, one male, not the one that had been making up to the hen, was found killed. The odd female was caught up and transferred to the Starlings' aviary without further delay The remaining pair now got down to real business and built a shallow

open nest of grasses in a *Viburnum prunifloria* tree—Black Haw. It was quite a small nest for the size of bird, being only 42 mm. across the top with an overall depth of 59 mm. and a cup of 25 mm. deep. Two eggs, olive-green, heavily marked with dark brown splotches, thickest at the larger end, were laid on 17th and 18th May. Unlike the Variable and Black Tanagers mentioned earlier, here the incubation was shared, and most zealously too, for as soon as one left the nest the other took over. Incubation began with the laying of the first egg and on 29th and 30th May the chicks hatched out. They were light skinned with a covering of blackish-grey fluff and the gapes were bright yellow. As assidious as the incubation had been so was the rearing, for both parents were continually hawking insects and were most partial to mealworm pupae. They were not so interested in the mealworms themselves and only took them when they realized that the supply of pupae must have run out. The entire rearing appears to have been done with live-food and both chicks left the nest on the same day, 13th June. They never looked back from that moment and gradually acquired the general colouring of the adult female's underparts, a pale mauvish-brown, although the mantle and wing-butts retained the white fleckings on a grey background which had been their overall colouring when they left the nest. On 30th June the female laid again, in the same nest with very little tidying up, and a second egg was produced the following day. As the young birds were now feeding themselves it was decided to remove them to the adjoining aviary and leave the parents to get on with their second round. This also was successful and two chicks, exact replicas of the earlier ones, left the nest on 28th July, and these also are now independant. Neither of the older two youngsters have entirely lost fleck-markings nor are they showing the white eye stripe yet. The underparts are the same colour as the adult female but, whether they are hens or not cannot at the moment be stated with any surety. It has been noticed that one of the new chicks appears to be darker underneath than the other but it is early days yet to make any decision regarding the final sexing of the four young birds. It is hoped that one at least is a male so as to provide a mate for the odd adult female now in the other aviary. If such is the case it could afford the opportunity of building up a strain of these most attractive Australian Swallows for, under the existing restrictions on the export of avifauna from Australia, it would be extremely difficult to introduce new blood.

At the same time as the Wood Swallows started on their second round the Black-headed Sugarbird female was busy nest building in a Fir tree and eventually laid two eggs, one on 3rd July and the other on the 4th. However, both disappeared on the 5th, and the Black-chinned Yuhinas (*Yuhina nigrimentum intermedia*) had then begun a war on the Yellow-naped Ixulus. It was no idle skirmish for they got all

four of them, one by one, down in a corner of the aviary from which there was no means of escape. Fortunately the first assault was seen and it was possible to rescue the Ixulus, as cornered, and place them in another aviary. The entire affair was over in less than an hour which gives some indication of the thoroughness of the Yuhinas for all their victims had to be sought out from amongst the dense bushes in there. That the latter birds had a serious intent was realized when they were observed mating and tidying up a hand-made nest of fine grasses that had been suspended just below the roofing wire. It is felt that they were responsible for the loss of the Black-headed Sugarbirds' eggs and the fact that the Swallow's were not touched was undoubtedly due to the fact that they were never deserted whereas, with the Sugarbirds, it was only the female which sat on the eggs and, therefore, they were left unguarded every time she came off to feed or bathe.

The Yuhinas laid four eggs, the first on 11th July, the clutch being completed by the 14th. They were very small and, although not removed for measuring, were seen to be a dull pale blue with brown spots. On 24th July it was realized that there were chicks in the nest so, in view of the seasonal rainstorms, a solid covering was fixed above the nest. Whilst this was being done it was the only time possible actually to see into the nest when it was observed that the newly hatched birds had very dark skins covered with a brown fluff and their gapes were the same salmon-pink shade as with the adult birds. From that time on it was only by watching the parent birds taking live-food to the nest that any progress of the chicks could be judged. Two of them must have died early on for, after nine days, the female was seen to drag one out of the nest and drop it to the ground. When it was picked up it was seen that it must have been dead about twenty-four hours. It was well feathered with a mantle of dark brown, a lighter shade in the wings, and the flanks a gingery shade. There was a dark fuzz on the head indicating the forming of a crest. On 4th August, twelve days after hatching, the one remaining chick left the nest. This was completely feathered with a grey cap and a distinct black spot on the chin. In other respects it resembled the young bird described above. Both parents fed the youngster and it was observed that live-food only was employed in the rearing. Thinking that small mealworms would be better for them, these were placed in their feeding tray but were completely ignored in favour of the larger ones fed to the other inmates. It was not long before the chick was flying well and a crest had begun to form. The parents then built another nest themselves on a ledge just below the guttering of the main bird room which forms one end of the flight and laid three eggs which hatched out on 23rd August. The female did most of the incubating of this second round whilst the male bird was busy weaning off their first youngster. Again it was not possible to see into the nest so the

progress of the chicks could only be judged as before, by watching the amount of live-food taken up by the parents. Visits to the nest by the parent birds ceased entirely on 30th August, and, on climbing up to the nest it was revealed to be empty and there was no trace of any of the young birds. The final score with Yuhinas, therefore, remains at one only.

We will now go on to the last of the aviaries shown on the plan, No. 37, where five successful breedings were recorded out of the sixteen pairs housed there. In all a total of thirty-two different species is in there but it is only in sixteen cases that it is known there are true pairs. The species are made up of Knysna and Purple-crowned Touracos ; Red-vented, White-eared, Black-headed, Yellow, and Brown-eared Bulbuls ; Red-winged and Amethyst Starlings ; Orange-head Ground and Kashmir Jay Thrushes ; Dhyal Birds ; Silver-eared Mesias ; Pekin Robins ; Demoiselle Cranes ; Spur-winged Plovers ; Burmese Peacock Pheasant ; Blue-headed Wagtail ; European, Indian, Yellow-headed, and Melodious Blackbirds ; Sulphury Tyrants ; European Redstart and Robin ; Pagoda Mynahs ; Rosy Pastors ; Yellow-cheeked Tits ; Golden-fronted and Hardwicke's Fruitsuckers ; Blue-winged Sivas ; Black-headed Sibias, and an Inca Tern. The entire aviary is thickly planted with trees such as Dogwood, Canadian and Carolina Hemlocks, Weeping Birch, Crab Apple, and Tulip, with shrubberies of Rhododendrons, Azaleas, and several local plants and heathers with a central lake of about 20 by 16 feet which is fed by a decorative waterfall. It was hoped that the expanse of the aviary, 63 by 42 feet with a maximum height of 26 feet, coupled with the amount of coverage provided, would be conducive to breeding despite the number of species of birds in there. In order to give an initial incentive to the Starlings, and such other birds that might care to make use of them, a number of roofed, open-type nest-boxes were hung at strategic places on the wire surround. The first to show any desire to nest were the Sulphury Tyrants which built a nest in a Carolina Hemlock overhanging the waterfall. Although four eggs were laid and the female seemed to sit well, nothing materialized and since then they have made two further efforts, all with the same negative results.

The first family to be raised was by the Red-vented Bulbuls (*Molpostes cafer*), who had made their nest in the top of a Canadian Hemlock, about 8 feet above ground level. The building of the nest had been watched but it was not possible to say exactly when the eggs were laid, how many were in the clutch, or the actual date of hatching. However, it was on 8th June that the parent birds were observed taking food to the nest and then three red gaping mouths could be seen reaching up for it. On 20th June all three left the nest and, on being caught up for ringing, it was seen that their plumage was dark

like their parents, signs of a crest were visible with the underparts and undertail coverts being white. There was no showing of any red at the vent and this did not appear until they were ten weeks old. Since then they have had two more nests, the first producing but one chick with two in the second and last. At the outset there were three Red-vented Bulbuls in this aviary but, even with the young birds now flying about freely, there has been no sign of any quarrelling amongst them. A little bit of bickering now and again but no fighting as had occurred with the Brown-eared Bulbuls which had resulted in the loss of one of them.

The next pair to be family-minded were the Silver-eared Mesias (*Leiothrix argentauris*), of which there was one male to three females. He and his chosen built their nest in an Azalea bush and it was suspended from the slender stalks by pieces of twine, which material was used also in conjunction with grasses for the outside of the structure, the lining being of finer grasses and dog's hair. It was an open cup nest, 84 mm. across the top with a cup of 65 mm. deep. The first egg was laid on 12th June, with two more on the immediate succeeding days. They were pale blue with reddish-brown splashes, mainly at the thicker end, and measured 21 by 14·5 mm. Incubating was shared and began with the laying of the first egg, one chick being hatched on 26th June, with another the next day. The third egg when removed later was found to be addled. The coloration of the chicks has been described many times before but, when the two left the nest, it was surprising to see that they were sexable by the colouring of the rump feathers even at that early age. Now they are two months old there can be no possible doubt of their sexes. It was intriguing to see the two spinster Mesias and the Pekin Robin female all feeding the young birds with no signs of objection by their parents. In fact, when the pair went to nest again, the Pekin hen took over the two young ones entirely. There were five eggs in this second round of which four hatched. These all left the nest in due time but, unfortunately, they were greeted by a terrific rainstorm during which three perished leaving a female as the sole survivor. The parents are now on their third round having three eggs which are due to hatch in the next few days. With one male and two females so far raised it is to be hoped that this third round will produce more males so as to balance up the sexes a bit more for, although another adult male has been acquired since, the masculine sex is still outnumbered.

Whilst the Red-vented Bulbuls were rearing and prior to the nesting of the Silver-eared Mesias, the Dhyal Birds and Pagoda Mynahs had selected two of the nest-boxes mentioned earlier. Although not in the strict sequence of events I will deal with the Dhyal Birds (*Copsychus saularis*) first. These had three eggs, pale green with reddish-brown streaks and spots, the larger end being

almost obscured. It was assumed that the first egg was laid on 5th June, for two were found on the 6th, and the third was there the following day. However, all the eggs disappeared and it was not until 25th June that the female laid again. There were three eggs as before which hatched out on 8th, 9th, and 10th July. Whether incubation had been shared or not was hard to tell for it was not possible to catch either bird going into or leaving the nest-box. It was situated in such a position that it could not be seen until one had circumvented a Dogwood tree, whereas the birds had warning of anyone's approach by the opening and shutting of the aviary doors. However, as soon as the chicks were born, both birds shared the rearing of them. It was just after this that the male bird got out, due to a door being left open, and he was away for six days before being trapped and restored to his family. He had been in the neighbourhood all the time and regularly used to come for the mealworms put out for him. All the same it was nearly a week before he made that one step that enabled him to be caught. It was an anxious moment when he was returned to the aviary but all fears were quickly dispelled when he snapped up a mealworm and promptly took it up to the nest to feed the young birds. There did not seem to be a great show of emotion on the part of the female on his return but, after being away on the spree for a week, who could blame her. On 24th and 25th July the young had all left the nest and, when caught up for ringing, it was observed that their breasts were whitish, flecked with brown with the rest of the underparts clear white. The mantle was dark brown and the wings showed a considerable amount of white and reddish-brown producing a tortoiseshell effect. It seemed uncanny the way rain-storms would break just after young birds had left the nest for, as with the Black Tanagers and the Mesias, this happened again on the 26th, and three of the baby Dhyal birds perished. The third, however, is now fully independent. Although the parents went to nest again, this time having five eggs, all of these failed to hatch. In both instances it has been noticed that the hen lays her eggs in the far back corner of the box on the bare board, entirely clear of the grasses that had been put in there in the first place. Still, she was not alone in this habit as will be seen from the following account.

There were four Pagoda Mynahs (*Temenuchus pagodarum*) in this aviary but, due to their similiarity in appearance, it was not at all a certainty that there was a pair amongst them. Needless to say, the more they were studied the more differences seemed to show up, but it had to be left to the birds themselves to prove things. This they duly did for, on 1st June, three plain blue eggs were discovered in another of the nest-boxes located at the far end of the aviary. These eggs also were reposing in the back far corner of the box completely clear of the grass. On 13th June two chicks hatched out and the third

egg just vanished. They were bare of all baby fluff and looked very weak. Two days later one of them was missing from the nest, and the second was gone the following day. The same pair returned to this box later in the month and on 29th June another three eggs were found in it. Again only two hatched but these, although bare like the others, looked much more vigorous. The date of this hatching was 7th July. Whilst all this had been going on, a rough nest of twigs was noticed being built at the opposite end of the aviary, up against the wall of the bird room. It was lodged on a branch of a Dogwood tree which was within 4 inches of the wall with the guttering immediately above. The birds responsible for this construction were either the Rosy Pastors (*Pastor roseus*) or the other pair of Pagodas, for both species of bird was always busy round there although it seemed to be but one of each type. Three plain blue eggs, undistinguishable from those of the Pagoda Mynah, were found in the nest on the same day as the discovery of the three in the Pagoda's nest at the other end. Then it was seen that at one time of the day the male Rosy Pastor would be on the nest and would be replaced by a Pagoda Mynah. Two chicks hatched out here, also on 7th July, but this time they seemed to be slightly larger, darker skinned, and did have some dusky fuzz on their bodies. As they grew it was concluded that they were hybrid Rosy Pastors/Pagoda Mynahs for both the male Pastor and a Pagoda did all the feeding and kept the remaining bird of each species well away from the nest. The chicks left the nest on 22nd July, and they were very large, completely disimiliar to the young Pagoda Mynahs which came out two days later. There was no doubt as to their parentage of these latter birds for they were replicas of the adult Pagodas in colouring except that it was a little paler and, instead of a black cap, they had brown feathering on their heads. The hybrids, however, were a smoky-grey on the mantle with lighter underparts and a dark cap but could not, at this stage, be said to resemble either parent in colour. The male Pastor ceased to tend to them six days after leaving the nest and began associating with his own female once more. By this time the young birds were bigger than their mother who had to make quite an effort when reaching up to get food in their ever open mouths. They are now nearly two months old and are almost as big as the Pastor. Their plumage is of a general sandy colour with dark markings on the wings and there is a semblance of a dark collar forming on the upper breast. Their heads have turned no darker than when they left the nest and, to date, have shown no signs of a crest forming. Why this hybridization should have occurred is just another of those strange ways of nature since, as stated before, both species had true mates available.

This marks the end of the breedings in outside avaiaries with the exception of a Green Cardinal which was bred in a small aviary,

away from the main buildings, that also contained pairs of Rose-breasted Grosbeaks and Bleeding-heart Doves with an odd Spotted-breasted Oriole. Two eggs had been laid and hatched out but one of the chicks was thrown out of the nest at nine days old. The survivor is now more than two months old and in general colouring resembles the adult female except that the underparts bear far more streaks. In addition to the near misses already mentioned in the preceding survey of the out-door aviaries, a pair of Indian Hoopoes nested in a hollow tree but, after the laying of the third egg, the hen was found dead on the ground. A similar tragedy occurred with an Amethyst Sunbird hen but, in this case, only one egg had been laid. Complete nests were also built by pairs of Bengal Pittas, Baltimore Orioles, and Palm Tanagers but, beyond that stage, nothing else happened in these cases.

There were two more breeding attempts that took place within the confines of the bird room. The first relates to a pair of Scarlet-breasted Sunbirds (*Chalcomitra senegalensis gutturalis*), which took to a nest in the room depicted on the plate facing page 115 of the May/June issue. The male bird that can be seen in that photograph actually bred in 1958 when one youngster was reared to maturity. Unfortunately the original female had escaped from the room so another was introduced early this year. The pair went to nest laying one egg on 1st May, which hatched out on the 14th, but the chick was thrown out of the nest the following day. Female sunbirds appear to be unlucky in this room for this second one was killed in an accident when the door of the room was blown open during a wind storm and she was caught between the door and the lintel as it swung back into position. I feel I cannot leave this subject without saying something about the change in the colour of the breast of the male bird that has taken place. On my arrival here in December, 1959, it was orange, having faded as is so often the case with this species when kept in captivity. However, when it moulted out this year, red feathers could be seen coming through the orange and now the bird has a breast as scarlet as that of a newly imported specimen and all the feathers are blue tipped as is customary. No special colour food was given and it is felt that it can be attributed to the surfeit of live-food in the way of fruit and other forms of flies which is always in their room.

The second indoor effort was by a pair of Bonaparte Euphonias (*Tanagra lauta*) and this took place in room No. 6 and, although it cannot be recorded as a complete success, I do feel that the following account will be of interest. There are several species of Euphonias, members of the Tanager family, kept here including the Pectoral, Lessons's, Blue-headed, Tawny-bellied, and Bonaparte. The majority on initial arrival were immature birds and, in many instances, it was a case of waiting until they came into colour before they could be

definitely identified and paired up. Needless to say there were, from the exhibitor's point of view only, defective birds amongst them suffering from such faults as scarred foreheads, hipped wings, claws missing, etc. However, so far as the aviculturist is concerned, the prime necessity is for fit and healthy birds and, provided the blemish will not in any way affect the propagation of the species, defects of the nature described above are no great handicap. All birds that arrive here, irrespective of their limitations to be perfect models for Mr. Boehm to sculpt, are given exactly the same treatment and no differentiation is made. In a shipment of Euphonias received early this year there was a female Bonaparte, that had a badly hipped wing, and a number of immature males. None of these birds were released into the outside aviaries but were housed in pens in the main bird-house. Early in May it was observed that a young male and the hipped wing female were always together and that they were picking up the larger pieces of wood chippings to be found in the sawdust floor covering and endeavouring to fix them together at the base of one of the " trees " into which the perches were secured. The other birds being caught up and transferred to another room, a potted shrub was placed in the Euphonias' pen with a hand-made nest secured within its foliage. Further, following the reading of a detailed account of the nesting of Lesson's Euphonias in the wild that had taken place in an Orchid plant, such a plant, in a pot, was suspended from the roof of the pen hanging about $5\frac{1}{2}$ feet above ground level. Another artificial nest was fixed in this since it was felt that, even if they did not take to the nests provided, they would at least be a source of supply of nesting materials should they decide to construct one themselves. There was no need for conjecture so far as the male was concerned for he promptly began to dismantle the one in the shrub and to begin building immediately below the one that had been placed in the Orchid. The female soon began to assist and, using the other nest as part of the roof, they quickly had a domed structure in position. On 21st May one egg, white with umber blotches heavily concentrated at the thicker end and measuring 16 by 12·5 mm., was found in the nest. This egg, however, disappeared on 10th June, the only trace of it being a few minute pieces of eggshell on the floor of the flight. Hopes rose again when they began to rebuild the nest on 13th June, making a much more robust job of it and, on 19th June, another egg was laid with a second the following day.

According to the report on the Lesson's referred to above, the incubation period for that species was anything up to sixteen days with some twenty-four to twenty-eight days before the chicks left the nest. Both these timings seemed very lengthy for such small birds but events were to show that the Bonapartes more or less conformed to these figures. On 5th July, one egg had disappeared, this time leaving

no trace, but the following day the other hatched. The tiny pink body with a very broad head was covered with a dark fluff. Although the female had done all the incubating the male certainly did his part now for he was continually to and from the food-tray with scraps of grape and banana for the youngster. Despite there being a plentiful supply of fruit-flies, small maggots and mealworms in the room, neither bird was ever seen to feed any of these to the chick and, for the first six days, it had nothing but fruit. After that they were noticed taking little pieces of minced beef-heart to it but the main diet still continued to be fruit. This was one of the few instances where quill-feathers were not visible at five days, for it was not until the 14th that any sign of feather formation could be seen although the original body fluff had worn off when it was but three days old. By 20th July, when it was fourteen days old, there was quite a showing of dark green feathering on the mantle with black in the wings. By this time it was moving about in the nest quite a bit, but there was no fear of it hurting itself if it fell out for precautions had now been taken against a repetition of what could have been a fatal accident. When it was but two days old the female left the nest rather hurriedly one morning and the chick fell to the floor. Fortunately it was seen to happen so it was possible to replace it in the nest without any delay. To guard against any recurrence, a wire landing stage, covered with hessian, was rigged to hang about 6 inches below the base of the pot containing the Orchid. No call was made on it however until the chick left the nest on 31st July, twenty-five days after hatching. Prior to this two further eggs had been laid on the 26th and 27th, which also tied up with the findings on the Lesson's in the wild. Unfortunately, as inferred above, this cannot finish as a complete success story for both these last two eggs disappeared on 5th August, and the chick was found dead on its landing-stage the following morning. Although it was exactly one calendar month old it had been out of the nest but seven days. I have not been able to locate any references to previous breedings of the Bonaparte Euphonia in captivity and any information on this would be appreciated.

For ease of reference, a summary of the successful breedings and other attempts this season, together with the position as at 18th September, 1960, is appended below.

Breedings.

Azure-winged Magpies	3 young now 13 weeks old
Black-chinned Yuhinas	1 young now 8 weeks old
Dhyal Birds	1 young now 10 weeks old
Green Cardinals	1 young now 9 weeks old
Magpie Tanagers	1 young now 13 weeks old
Mourning Doves	2 young now 15 weeks old
	1 young now 9 weeks old
Occipital Blue Pies	5 young now 12 weeks old
Pagoda Mynahs	2 young now 10 weeks old

Peach-faced Lovebirds	2 young now 6 weeks old
Redrump Parrakeets	1 young now 17 weeks old
Red-vented Bulbuls	1 young now 14 weeks old
	1 young now 10 weeks old
	2 young now 6 weeks old
Rosy Pastor/Pagoda Mynah Hybrids	2 young now 10 weeks old
Silver-eared Mesias	2 young now 12 weeks old
	1 young now 6 weeks old
	3 young in nest
Variable Tanagers	1 young now 16 weeks old
	1 young now 10 weeks old
	1 young now 3 weeks old
White-browed Wood Swallows	2 young now 16 weeks old
	2 young now 10 weeks old

Species.	*Attempts. Final Result.*
Amethyst Sunbird	1 egg—hen died
Baltimore Orioles	Constructed nest
Bengal Pittas	Constructed nest
Black-headed Sugarbirds	Clear eggs
Black Tanagers	3 young all killed 3 days out of nest
Bonaparte Euphonias	1 young died 2 days out of nest
Golden-masked Tanagers	2 nests—3 eggs in each, all disappeared
Indian Hoopoes	3 eggs—hen died
Knysna Touracos	Clear eggs
Red Rosella Parrakeets	Young died in nest
Scarlet-chested Sunbirds	1 young—died at 2 days old
Silver-throated Tanagers	3 eggs—all disappeared
Sulphury Tyrants	Clear eggs

* * *

DARENTH-HULME, 1960

By KAY BONNER (Southgate, England)

Oakwood is, of course, a London suburb and like most of such is being "developed". Maisonettes, mostly privately owned, are springing up and as a result there is a great increase in the local cat population. Our garden is seemingly very attractive to them and we very often have a regular clowder. In the past we have been able to "control" them, especially the semi-feral variety, but now there are several very nice ones, including a Siamese and a white long-haired, so we just have to suffer them. In addition, we have quite a few Tawny Owls. Some evenings as many as five or six may be seen in the trees and on the chimneys. Neither of these nuisances, the cats or the owls, is conducive to good breeding results. They do have a very great nuisance value but we cannot say with any certainty that they have been responsible for any casualties amongst the birds. We have had no cracked skulls and none, as our aviary attendant succinctly puts it, has been "skunned". But these are but some of the trials and tribulations to be expected by the present-day suburban aviculturist. By far the worst trouble we experienced was on Good Friday when

children very successfully and thoroughly set fire to the spinney that adjoins our property. The only material damage we suffered was to a boundary fence ; but the smoke, and the commotion caused by the crews of a couple of fire engines, to say nothing of the very considerable crowd of sightseers, did irreparable damage as far as the nesting and near-nesting birds were concerned.

The parrakeets had a very poor season. Abyssinian Lovebirds and Lineolated Parrakeets managed to rear a few young ones, and the Red-faced Lovebird colony produced a single young one late in September—just for a change it was a perfect specimen.

At long-last the Patagonian Conures discovered that the wire-netting was by no means proof against their escape. One spent a day flying round the district but returned to its aviary in the evening and was easily caught up. The unwonted exertion of sustained flight was, however, too much for it and it died a few days later. The post-mortem examination showed that it was a somewhat aged female. The " pair " produced four eggs last year, but the deceased is unlikely to have been the layer, so seemingly we had been pinning our hopes on two females.

The Madagascar Lovebird lost her green Budgerigar mate early in the year. She readily accepted a replacement but her two clutches of eggs, as was to be expected, proved infertile. This year we tried two pairs of White-bellied Caiques in the wilderness aviary but they showed no inclination to breed, probably there were too many counter-attractions. The two pairs of Black-headed Caiques just sat in a row thinking and occasionally eating. The Green Imperial Pigeons laid about half a dozen eggs but only managed fully to rear one young one. The Pied Imperial sextet, after a long series of infertile eggs, did not bother to lay this year.

The Galapagos Doves failed to rear, always being over-anxious to nest again. Whereas the old breeding pair of Lemon Doves were not successful a pair of their last year's young ones reared two. The Bronze-necked Doves repeated their exercise in prolificacy and four pairs reared about a couple of dozen young ones.

A Red-eyed or Half-collared Dove (*Streptopelia semitorquata*) mated to an European Turtle Dove (*S. turtur*) (one we caught some years ago) successfully reared three pairs of young.

There have been quite a few natural increases in the wilderness aviary, but we do not think there was anything out of the ordinary. The difficulty with an aviary of this size and nature is that one is not aware of all that goes on. Old familiars disappear and " little strangers " are suddenly sighted never to be seen again. But the great benefit is that the inmates are at least living comparatively free and natural lives.

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THE SCALY DOVE

By C. J. O. Harrison (Tooting, London, England)

The Scaly Dove (*Scardafella squammata squammata*) is a small South American dove. Aviculturally speaking it is a size larger than the Diamond Dove (*Geopelia cuneata*), with a tail that is broader, less graduated, and shorter, relative to the body size.

In general coloration it is dull brown above and creamy-white below. With the exception of the belly and under tail-coverts, most of the feathers are edged with black, giving it the typical scaly pattern. There is a pale pink tint on the breast, and the forehead and throat are pale, the rest of the head being brown. The iris of the eye is a deep chestnut-red.

The lesser wing-coverts are brown but the coverts nearer the flight feathers are white, all being edged with black. The primaries and primary coverts are chestnut edged with black, and the underside of the wing, where it is not chestnut, is black. In flight the bird suddenly becomes brightly coloured. The outermost tail feathers are white, the central ones brown, and the rest black with graduated white tips.

The closely related Inca Dove of Central America (*Scardafella inca* or *Scardafella squammata inca*), the breeding behaviour of which has been described by Johnston (1960), has a vinous-red tint over the whole head and breast and lacks most of the white on the wing-coverts. It has fewer and less conspicuous dark edges to the feathers.

The Scaly Dove was first bred in this country by Seth-Smith in 1904, and is recorded as having bred at the London Zoo in 1912, but it seems to have been absent from our aviaries for some forty-five years.

In the early spring of 1959 I purchased four of these birds, hoping to have at least one pair. They were wild at first and, when put into an aviary, one died of skull injuries. I tried to buy another and was offered the only remaining bird. This was lame, the left leg sticking out at right angles with the inside edge of the foot resting on the ground. It was able to shuffle round quite rapidly and to balance on a perch.

By this time another bird had died and I was left with three birds. All were individually recognizable and one I felt sure was a cock. It was boldly marked, the coloured zones of the plumage clearly demarcated and bright, and the neck relatively thick, giving it a slightly small-headed appearance. It had very heavy black edges on the feathers of the lower breast. The lame bird was dark brown and very heavily marked with dark edges that formed a bold network over head and body. Since it also possessed heavy black edges on the lower breast I suspected it of being another cock.

The third bird was altogether paler, with lighter edges to the feathers, these being almost absent over much of the breast and head.

Its paler colour and relatively slim appearence made me suspect that it was a hen.

I waited for some sign of breeding behaviour but the birds behaved as one. In the wilds they seem to be thicket haunters when not actively feeding and I had no trouble persuading them to use the shelter shed attached to the open flight. At dusk, in bad weather, or at the approach of danger they retired hastily to the shed. They were more sociable than most doves and fed together and always perched in a tight huddle, pressed close to one another. Occasionally any one of them would utter the song ; a clear incisive triple-note " quor-cuc-cuk ", rather high-pitched and far-carrying.

Sometimes one bird, on approaching another, would indulge in a rather odd head-waving. The head, raised high on a rather long neck with the bill tilted a little upwards, would be thrust forwards and downwards towards the other bird, being drawn back as it was lowered and then raised and thrust forward again, a series of such movements occurring in rapid succession to give the impression of a head waved at the end of a long neck. The movement was a little reminiscent of the aiming motions made by a dove about to fly.

Apart from this nothing happened and I began to suspect that I had three cocks. They stayed in the aviary throughout the following winter. They seemed hardy, and their habit of huddling together in a sheltered corner of the shed if the weather was not to their liking saved them from the worst of the cold.

It was not until the middle of the summer of 1960 that I became aware of any special activity. I found that one bird was calling incessantly in the early morning, a monotonous reiteration of the call that became a little embarrassing in a small suburban garden. Then chasing and fighting began to occur between the cock and the light-coloured bird. It was the latter that was now doing most of the calling. Within a few days I saw this bird, which I had thought to be a hen, carrying a grass-stem into the shed, and found that it was paired to the lame bird.

Knowing that two cock doves may occasionally act as a pair I suspected that this was what had occurred, and that the lame bird, being less active than the other, was fulfilling the subordinate role. During the next week a nest was constructed in a corner of the shed. This consisted largely of grass-stems and had a distinct cup with a rim about half an inch high. Whenever I entered the shed the doves left it, and so a few days later I was able to see an egg in the nest. It was glossy, slightly bi-conical in shape and cream-coloured with a faint pink tint. Further observation, and a further egg, revealed that the lame bird was a hen, and the others both cocks.

They had been markedly social before and even now did not appear to be strongly territorial. The odd cock was chased if he came close

to the shed but tolerated at the other end of the flight, only 12 ft. away. But a Diamond Dove that could approach the nest fairly closely on the other side of a wire-netting partition evoked vigorous threat reactions.

I did not dare examine the nest closely but young birds were present after a fortnight. Later I found the nearly fledged young on the ground, and suspected that the hen, clumsy because of her lameness had knocked them out when suddenly quitting the nest. Within a few days both were found dead.

Returning after four weeks absence I found that the birds had nested again in the same nest ; an unfeathered nestling lay dead below it, and the hen was incubating a clear egg. I removed both.

They now tried to build on the inch-wide ledges formed by the tops of the doors of the flight. I finally fixed a shelf about 4 in. wide over one door, with a handful of grass on it, and fixed the lid of a basket on the top of the flight above for shelter. This was quickly utilized by them, and since it was in the open I was able to observe more of their behaviour.

In display the cock crouches in front of the hen with head lowered and raises the fanned tail until it almost tilts forwards over the back. In this position the tail is flexed spasmodically up and down and an abrupt note, " corrok," is uttered. The call and tail movement do not appear to be synchronized. Johnston (*loc. cit.*) describes the Inca Dove's call as " cut-cut-ca-doah ". I could at times detect low, soft notes interspersed with the display call but they did not seem to form part of a definite rhythmic utterance.

Unlike that of most doves, the nest-call resembles the display, the cock uttering the same call and squatting with fanned tail, though this is not spread so fully nor raised so high as in display. There is the same jerking of the tail, and in addition a downward thrusting of the head with the bill pointing downwards.

The first egg was laid late in the day on 4th September, about a week after nest-building began, the second late in the day on 6th September. They had not hatched on the morning of 20th, but both were hatched by the morning of 21st. In spite of the closeness of the hatching times one youngster was more advanced in development than the other.

In contrast to other species that I have kept, the adults would leave the nest at my close approach. The young did not fall out, possibly because the parents could see my approach and did not leave so suddenly. On the morning of 3rd October, when barely thirteen days old, the more developed of the two young followed the parent, flying off the nest at my approach. It flew strongly and fluttered against the wire of the flight for a short while before dropping to the ground. I replaced it in the nest, but it flew out again and so I reluctantly left it, inserting twigs near the nest (which was 6 ft. up and 3 ft. from any

twig) in case the other one decided to leave. Next morning I found the first one back in the nest, and although it left again it was back the next night.

The morning of 5th October was cold and I found the first youngster perched with the parents and the other dying in the nest. I thought at first that they had deserted it in favour of the other, but an attempt at hand-rearing revealed that it was suffering from some internal disorder.

The first young one now spent all its time with the adults, resting and roosting between them. Within a week it was difficult to distinguish it from its parents at first glance.

With the advent of cold weather the hen appears to have lost the urge to nest again.

I fed these doves on pannicum millet and canary seed, with hemp and maw when available. Oystershell grit, ground cuttle-fish, and Kilpatrick's minerals were given, and they had in addition the plants and earth of the aviary.

Apart from a timidity, which I think is partly due to their habitat needs and might respond to the provision of more apparent cover, they have much to commend them as aviary birds. At various times I have kept waxbills, Blackbirds, and thrushes with them and found the doves quite unaggressive towards them. They seem more sociable than other small doves. They appear hardier, and better able to take care of themselves than other small species. The successful nesting occurred in a period with heavy rains and some night frosts, and I had, *faut de mieux*, to keep a cock in a flight with no shelter other than a small pane of glass until early November without apparent detriment or discomfort.

REFERENCES

JOHNSTON, R. F. (1960). Behaviour of the Inca Dove. *Condor*, 62, 7–24.
SETH-SMITH, D. (1903–4). Nesting of the Scaly Dove. *Avicult. Mag.*, N.S. 2, 278.

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LONDON ZOO NOTES

By J. J. YEALLAND

Three species new to the collection have been received during September and October. They are a Christmas Island Frigate Bird (*Fregata andrewsi*), a pair of Forest Wagtails (*Dendronanthus indicus*), and a pair of Sooty Flycatchers (*Muscicapa sibirica*).

The Frigate Bird is immature and was collected on the Cocos Islands: the Forest Wagtails, like the Sooty Flycatchers, were imported in excellent condition by Mr. Dineen. This Wagtail inhabits eastern and south-eastern parts of Asia, migrating as far north as the Sakhalin and Ussuriland area and as far southward as Sumatra and Java. Its plumage is of a brownish, black and white pattern that must render the bird difficult to discern among the forest glades and stream sides that it frequents. A curious feature is the habit of swaying the body from side to side and no up and down movement of the tail has so far been observed.

The Flycatchers are quite well named, being of a dull greyish and brown colour with whitish throats and under parts and a ring of white feathers round the eye. There are four races of this species which ranges widely in eastern Asia and migrates as far southward as Malaysia. The sexes, like those of the Forest Wagtail, are much alike in plumage.

Other arrivals of interest are three Humboldt's Penguins (*Spheniscus humboldti*), a pair of Barrow's Golden-eye (*Bucephala islandica*), a Prince Albert's Curassow (*Crax a. alberti*), a Satyr Tragopan, a pair of Thick-billed Green Pigeons (*Treron curvirostra nipalensis*), a pair of Tambourine Doves (*Tympanistria t. fraseri*), a pair of Madagascar Lovebirds, a Black-headed Oriole and a Syrian Bulbul (*Pycnonotus barbatus xanthopygos*). A Great Grey Tinamou was reared at Leckford from eggs which our male would not incubate.

One or two quite aged birds have died within the past few months. They include a White-capped Tanager after $16\frac{1}{4}$ years in the collection, a Variable Tanager (*Ramphocelus flammigerus*) after $13\frac{1}{2}$ years, an Azure-winged Magpie after $11\frac{3}{4}$ years, and a White-breasted Kingfisher after $10\frac{1}{4}$ years.

With the exception of the Azure-winged Magpie which was caught in Portugal as a young bird in 1948, the ages of these was not, I think, known at the time of arrival.

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COUNCIL MEETING

A Council Meeting was held on 9th November, 1960, at the Rotary House Club, 21 Portman Square, London, W. 1.

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Officers for 1961

There were the following retirements and appointments :—

President : Mr. D. Seth-Smith retired according to rule, and being eligible was re-elected.

Assistant Secretary : Miss Kay Bonner retired according to rule, and being eligible was re-elected—for a third term of office.

Council : Mr. F. Mosford, Sir Crawford McCullagh, Bart., and Captain R. S. de Q. Quincey retired by rotation.

Mr. W. D. Cummings, Dr. W. C. Osman Hill, and Mr. F. E. B. Johnson were elected to fill the vacancies.

* * *

The Society's Medal

The Society's Medal has been awarded to :—

Mrs. K. M. Scamell, for breeding the Blue-headed Rock Thrush, *Monticola cinchoryncha*.

Mr. W. D. Cummings, for breeding the Pretty Warbling Finch, *Poospiza ornata*.

Mr. H. Murray, for breeding the Redwing, *Turdus musicus*.

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Certificate of Merit

A new award, to be known as the Certificate of Merit, has been instituted. It will be awarded from time to time at the discretion of the Council, to Zoological Societies, Pheasant and Waterfowl Trusts, etc., in recognition of meritorious success in breeding and rearing birds in captivity.

The award has now been made to :—

The North of England Zoological Society, for breeding the Blue-crowned × Ceylon Hanging Parrot hybrid, *Coryllis galgulus* × *C. beryllinus*.

The Wildfowl Trust, for breeding Hartlaub's Duck, *Cairina hartlaubi*.

Arthur A. Prestwich,
Hon. Secretary.

BRITISH AVICULTURISTS' CLUB

The seventieth meeting of the Club was held at the Rotary House Club, 21 Portman Square, London, W. 1, on Monday, 26th September, 1960, following a Dinner at 7 p.m.

Chairman : Dr. Edward Hindle.

Members of the Club : Miss P. Barclay-Smith, T. Barling, P. S. Bates, A. W. Bolton, Miss Kay Bonner, W. Brain, Captain A. A. Clarence, Lieut.-Col. H. W. Clayden, W. D. Cummings, J. O. D'eath, M. D. England, Miss Ruth Ezra, Colonel H. B. Finch, W. J. Forest, Miss S. A. Fothergill, Mrs. O. L. Gent, L. Georgeson, Dr. E. F. Gleadow, Dr. R. Gottlieb, A. V. Griffiths, H. J. Harman, L. W. Hill, Dr. W. C. Osman Hill, F. E. B. Johnson, Mrs. S. Johnstone, Miss E. Maud Knobel, Miss M. H. Knobel-Harman, A. Lamb, A. J. Lambert, P. H. Maxwell, A. F. Moody, G. S. Mottershead, S. Murray, K. A. Norris, W. R. Partridge, C. M. Payne, A. A. Prestwich, Captain R. S. de Q. Quincey, R. C. J. Sawyer, D. Seth-Smith, H. A. Snazle, T. Spence, Newton R. Steel, P. Sutton, Mrs. P. Sutton, E. A. Tickle, E. H. Tong, Mrs. P. V. Upton, E. N. T. Vane, Mrs. H. M. Vane, P. L. Wayre, Mrs. Grace Wheatley, J. J. Yealland.

Guest of the Club : Jean Delacour.

Members of the Club, 54 ; guests, 24 ; total, 78.

The seventieth Dinner was arranged to coincide with the seventieth birthday of Jean Delacour. After the presentation of the Club's birthday cake, with musical honours, the Chairman gave a brief outline of our distinguished guest's many and varied activities, centred principally on bird and animal collecting and keeping, exploration, and museum research. The Chairman touched briefly on Jean Delacour's army service in two world wars, the destruction of his estates at Villers-Bretonneux in the first and Clères in the second : exploration and collecting in Indo-China and Madagascar ; world-wide travels, authorship of hundreds of papers and many major works, including monographs of pheasants and waterfowl of the world ; and, finally, his recent retirement from the very successful directorship of the Los Angeles County Museum. The Chairman concluded his necessarily short review by quoting a message from our member James Rooney, of Washington. This message, which must surely express the opinion of the great majority, succinctly sums up our guest of honour : "He is what we call 'tops' as a gentleman, naturalist, author, conservationist, diplomat, administrator, and promoter of worthy causes."

Jean Delacour, in his own charming and inimitable manner, thanked the members and guests for their very cordial welcome and good wishes. He recalled his long association with the Society, dating from 1916, and mentioned a few of his friends of days gone by. He

then gave the following account of "Waterfowl Conservation in Japan":

Until less than a hundred years ago Japan was a bird paradise. The Tokugawa Shogunate, which had run the country for nearly three centuries and had completely shut it off from the rest of the world, had enforced a practically complete protection. No one except the Emperor and the Shogun was allowed to shoot or to kill anything and, even the capture of birds was controlled. The larger wildfowl, such as swans, geese, ducks, cranes, storks, herons, ibises, were very plentiful, some as resident species, others as summer or winter migrants.

The new regime which in 1868 replaced the Shogunate, re-established the power of the Emperor himself. It opened the country to foreigners and introduced many liberal measures, many of them very welcome. But a few others were not so happy, among them the right for everyone to kill everything. Within a few years the larger birds were decimated. It is most extraordinary that the Japanese have an inborn interest and love for birds. A few species were completely wiped out, particularly the Oriental populations of Snow and Canada Geese which previously wintered commonly in Japan; none has ever returned since. Other geese and the swans were greatly reduced in numbers, and also the ducks. The beautiful Mandarins almost disappeared. The cranes were terribly slaughtered, particularly on their wintering grounds. It was all the worse since three of the most beautiful and local species which nest farther north were affected: the Japanese or Manchurian Crane (*Grus japonensis*), the White-necked Crane (*Grus vipio*), and Hooded Crane (*Grus monachus*). The rare Steller's Albatross (*Diomedea albatrus*) was all but exterminated on the islands of Izeu, its only breeding territory, because of the value of its wing feathers. The Japanese Stork (*Ciconia boyciana*) and the Japanese Crested Ibis (*Nipponia nippon*) still are on the verge of extinction, fewer than twenty specimens of each living at present in Japan. It was only at the turn of this century that awareness began to rise in Japan as to the seriousness of the situation. A few ornithologists began to be interested in the survival of the threatened species. Some of them belonged to the old ruling class and were connected with the Imperial family. They caused some protective measures to be adopted and the total extinction of several species was therefore avoided. But it was already too late in some cases.

There are at present some good conservation measures, as well as refuges and national parks. The last wintering grounds of the cranes in Kiushiu have become sanctuaries, but both the Hooded and the White-necked Crane populations are now reduced to a few dozen. They may still be ruthlessly destroyed on their nesting grounds and on migration in North-Eastern Asia.

The Japanese Cranes used to breed throughout Japan and on the

Continent, where their present situation is not clear. To-day their Japanese range is reduced to Eastern Hokkaido in the vicinity of Kuchiro. And they have been so well protected that a flock of over 150 has been built up during the last ten years, from only about ten pairs that remained. Part of their range is a national park ; in the rest farmers, now well aware of their great interest, protect and feed them. These large and magnificent white birds, with black neck and wing tips covering the tail, are probably the finest of all cranes. Although some populations used to migrate, those of Hokkaido are quite sedentary, therefore easier to protect. We recently had an excellent view of the Japanese Cranes in Hokkaido. Many pairs were nesting in June throughout the area, but young, still non-breeding birds, returned every day to be fed to a large fenced-in pen where five wing-clipped birds are permanently kept.

Incidentally, the common breeding duck of Hokkaido is the Falcated Teal (*Anas falcata*) which could be seen in pairs in all the marshes.

There still are about seventeen storks on the main island, mostly in the vicinity of Kyoto, and they are carefully protected. They have, however, failed to rear young during the last few years, a very alarming state of things. It is feared that the use of insecticides in the rice-fields where they live is responsible for their failure.

There were recently only seven Crested Ibises left in the north of the main islands, but three more had just left the nest when we were in Japan. It is hoped that more storks and ibises still exist in Korea, Manchuria, and South-Eastern Siberia, but these two fine species certainly are in a highly precarious situation.

During the recent meeting in Tokyo of the International Council for Bird Preservation pressing resolutions were passed, and the activities of the Japanese Section greatly supported. An Asian Continental Section has been created to co-ordinate the efforts of the different countries, and it is hoped that this will very favourably affect our struggle to preserve the many wonderful species of oriental waterfowl.

As Jean Delacour is in future to spend much more time in Europe it is to be hoped that it will not be long before the Club is again able to welcome him.

The seventy-first meeting of the Club was held at the Rotary House Club, 21 Portman Square, London, W. 1, on Wednesday, 9th November, 1960, following a dinner at 7 p.m.

Chairman : Dr. Edward Hindle.

Members of the Club : Miss P. Barclay-Smith, P. S. Bates, A. W. Bolton, Miss K. Bonner, B. Dittrich, A. C. Edmonds, M. D. England, Colonel H. B. Finch, Dr. E. F. Gleadow, Dr. R. Gottlieb, F. Grant, H. J. Harman, L. W. Hill, Dr. W. C. Osman Hill, H. J. Indge, F. E. B. Johnson, F. Terry Jones, Miss E. M. Knobel, A. Lamb,

P. H. Maxwell, F. Mosford, G. S. Mottershead, Sir Crawford McCullagh, Bart., K. A. Norris, W. R. Partridge, C. M. Payne, A. A. Prestwich. J. H. Reay, D. H. S. Risdon, R. C. J. Sawyer, D. Seth-Smith, H. A. Snazle, E. O. Squire, E. A. Tickle, E. N. T. Vane, Mrs. H. M. Vane, P. L. Wayre, Mrs. G. Wheatley, J. J. Yealland.

Members of the Club, 40 ; guests, 16 ; total, 56.

The President of the Avicultural Society presented the " President's Medal " to Miss Phyllis Barclay-Smith and to Mr. A. A. Prestwich.

Mr. M. D. England exhibited a family of four hand-reared Black-eared Wheatears which he had taken in Almeria and projected an excellent series of Kodachromes showing their natural habitat.

The next meeting of the Club is on WEDNESDAY, **11th January, 1961.**

ARTHUR A. PRESTWICH,
Hon. Secretary.

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NEWS AND VIEWS

The Bronze Medal of the Avicultural Society of South Australia has been awarded to W. Curl, for the first breeding of the Squatter or Partridge Bronze-winged Pigeon, *Geophaps scripta*.

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Lou Schumacher, Baldwin Park, California, records that his Peruvian Bare-faced Doves, *Metriopelia ceciliae*, " have raised a number of youngsters to maturity." This would appear to be a first breeding in the U.S.A.

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William G. Conway has been appointed Associate Director of the New York Zoological Park. Formerly Curator of Birds at the St. Louis Zoological Park he came to the Bronx Zoo as Associate Curator of Birds in 1956 and became Curator of Birds in 1958.

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John A. Fell, Gippsland, Australia, reports his results for 1959–60, his first breeding season : " Redrumps, five in a single nest, two cocks and three hens ; Cockatiels, two nests, six young, three each of both sexes ; Budgerigars, wild stock not domesticated type, two nests, ten young, eight hens and two cocks ; Peach-faced Lovebirds, two nests, four young, two each of both sexes ; Blue-wings, two nests, four cocks and two hens."

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Back in the summer J. S. Riggsa suffered misfortune from an unexpected source. He writes : " I had a bit of a set-back to my breeding the other day when a swarm of bees invaded my Broadtail aviaries and went into three nest-boxes. They disturbed Pennants that were laying, Golden-mantled Rosellas incubating eight eggs, and

stung to death a brood of four young Mealies. I would strongly advise anyone to keep either birds *or* bees but *not* both. I gave away all my bee hives that same night."

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In the March–April, 1960, number of *Animal Kingdom* there is a graphic account by William G. Conway of the New York Zoological Society's very successful expedition to the Bolivian Andes in search of James's Flamingo, *Phoenicoparrus jamesi*. There, at Laguna Colorada, at an altitude of 14,800 feet, he found this recently rediscovered species. Twenty were captured and all, together with one Andean, were brought back safely to the New York Zoological Park.

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F. E. B. Johnson writes: "My pair of Koklass Pheasants which I imported at the end of last year laid sixteen eggs but unfortunately only one of these was fertile. This produced a chick on 12th June and it survived until 3rd September, when it had been independent of its foster-parent for about a month. I do not think the Koklass has previously been bred in England, but it has, of course, been bred on the Continent and in America." Let us hope for better fertility next year.

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Breeding reports. Mrs. E. J. Birchall, Moustache Parrakeet, two hatched, one reared. Major V. Dilwyn-Jones, Salmon-crested Cockatoo, two eggs, incubated for the full period, disappeared, presumably infertile; two further eggs in process of incubation: Citron-crested Cockatoo, one young one just hatched (4th October).

* * *

Last year a pair of Cuban Amazons owned by Mrs. Velma McDaniels, Lomita, California, went to nest. A soft-shelled egg was dropped on the floor on 10th May, but three others were laid in the nest on 12th, 14th, and 17th May. Three young were hatched on 17th June; one died on 4th July and the remaining two on 6th July. They had full crops but were bruised and flattened. This year's breeding attempt has had a happier result. Three young were hatched but on 3rd June the parents deserted the nest which contained one dead and two live young about four days' old. Mrs. McDaniels, by the exercise of very great patience, successfully hand-reared both and now, at five months' old, they are developing into clear and fluent talkers. This success is believed to be a "first" for the U.S.A.

* * *

It would appear, in America at least, that "Velma" is likely to become synonymous with "Breeder of Amazon Parrots". Since 1956 Mrs. Velma Hart, Long Beach, has reared ten (of eleven hatched) Double Yellow-headed (Levaillant's) Amazon Parrots.

Subscriptions, 1960. Despite the appeal made in the November–December, 1959, number of the MAGAZINE it was necessary to send reminders to 427 members—an *increase* of twenty-seven! Second reminders were sent to 186 (1959, 228) and third to 122 (1959, 138). Will members please help to conserve the Society's funds by making prompt use of the renewal form inserted in the present number of the MAGAZINE.

A. A. P.

* * *

CORRESPONDENCE

LADY AMHERST'S PHEASANTS LIVING WILD IN DEVON

I have just been reading the July–August number of your MAGAZINE and am wondering if any of your readers would be interested to know that there are still some survivors of Lady Amherst's Pheasant living completely wild in a wood at Lynton, North Devon. I saw a cock in September last. I understand that a number were set free to fend for themselves by a past owner of the Castle Hotel at Lynton. This happened some good few years ago.

About five years ago I saw a pair and never was able to spot them again until last September when I saw the cock bird.

N. BARRACLOUGH (Mrs.).

THE THATCHED HOUSE,
INGATESTONE,
ESSEX.

CORRECTION

With reference to my article on the Pretty Warbling Finch, and photograph appearing in September–October number of AVICULTURAL MAGAZINE, the caption under the photograph should read " Three young Warbling Finches ".

W. CUMMINGS.

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* * *

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1 lb.	3/6	½ lb.	2/–	½ lb.	2/–	1 lb.	6/–	1 lb.	4/6
3½ lb.	11/9	1 lb.	4/–	1 lb.	4/–	3½ lb.	21/–	3½ lb.	15/–
7 lb.	22/9	3½ lb.	13/6	3½ lb.	13/6	7 lb.	38/8	7 lb.	29/9
28 lb.	85/–	7 lb.	26/6	7 lb.	26/6	28 lb.	154/–	28 lb.	112/–
		28 lb.	98/–	28 lb.	98/–				

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" " (Ground)	6/9	12/9
Dried Dragonfly larvae	6/6	12/6
Dried Shrimp (Fine, Medium, or Coarse)	2/3	3/6
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Pure Dried Egg	6/6	12/6
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NEW MEMBERS

The twenty-one Candidates for Election in the September–October, 1960, number of the *Avicultural Magazine* were duly elected members of the Society.

CHANGES OF ADDRESS

W. L. E. DE ALWIS, to The Zoological Gardens of Ceylon, Dehiwala, Ceylon.

W. ROBERT HAWKES, to "Currawong", Salt Creek, South Australia.

DUDLEY C. MEYERS, to c/o Mrs. E. J. Farr, 50 Cobton Drive, Hove, Sussex.

K. A. OSTERMEYER, to 27 Cumberland Avenue, Welling, Kent.

D. H. S. RIDDON, to 337 Pershore Road, Edgbaston, Birmingham 5.

W. M. SANDS, to The Croft, 24 The Crescent, Adel, Leeds, 16.

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